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Fish Kills Caused by Pollution in 1974

Environmental Protection Agency, Washington, D C

1974

PB 262 894

FISH
KILLS
CAUSED
BY
POLLUTION
IN
1974



EPA-440/9-75-013

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FISH
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FIFTEENTH
REPORT**

**OFFICE OF
WATER PLANNING
AND STANDARDS**

**MONITORING
AND DATA
SUPPORT DIVISION**

**WATER QUALITY
ANALYSIS BRANCH
WASHINGTON, D.C.
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Photos: Robert L. Crim

Foreword

The annual fish kill report represents the combined efforts of private individuals: State fish and game, health, and conservation officers; and water pollution control officials at the State and Federal level. Usually, a fish kill is first noticed by a fisherman, camper, or other private citizen, who informs a warden or other State official. In most cases, the State agency then sends trained investigators to identify the cause and size of the kill. Where water pollution is determined or suspected to be the cause, the State submits a report to the Environmental Protection Agency.

It is essential that a fish kill be reported and investigated immediately in order to determine the source of pollution and the polluting agent. Dead fish may be washed downstream from the source of pollution. The polluting agent may be diluted by fast-flowing water, making onsite investigation difficult or even impossible. Hot weather conditions decompose fish tissue, also making it difficult to identify a polluting agent. Since the investigator can count or estimate only those fish which lie on or near the surface, the number of fish reported killed is almost always a conservative figure. In some cases, as much as 80 percent of the dead fish cannot be counted due to turbid water, or because the fish have either sunk to the bottom of the water body or have been washed away from the site of the kill.

The reporting system depends, to a large extent, upon individuals in the field making State officials aware of fish kills. It is, therefore, quite likely

that the large increases in reports for 1971, 1972, 1973, and 1974 over earlier years are a result of increased public awareness of pollution and its effects. We hope this fish kill report contributes to this awareness.

The following is a short summary of significant statistics of fish kills reported in 1974.

- *All States Reported in 1974*

For the third time since the inception of the annual pollution-caused fish kill reporting system in 1960, every State in the Union has responded with records of fish kills in the State. Two participating States reported no fish kills.

- *The Number of Fish Kill Reports for 1974 Continued to Decrease From the Peak Year 1971*

For the third year in a row, the total number of reports showed a downward trend from the previous year. Nevertheless, the 721 reports received in 1974 were 14 percent higher than the number of reports received for any year before 1971.

- *Over 100 Million Fish Reported Killed in the State of Maryland*

On four separate days during the month of August, over 10 million fish were reported killed in separate incidents in Back River, near Essex, Maryland, because of municipal sewerage system pollution. One of these kills was reported as responsible for almost 48 million dead fish.

- *Over 400 Million Fish Reported Killed Since 1960*

The 119.1 million fish reported killed in 1974 brought the cumulative total of all fish reported killed by water pollution since 1960 to 455.6 million. 1974 established a new record for the number of fish reported killed in any year since the reporting system began. The number of fish reported killed was 62 percent higher than the prior record year of 1971 and 215 percent higher than 1973.

- *Municipal Operations Led All Other Pollution Operations in Fish Kill Reports for 1974*

For the first time since the beginning of the fish kill reporting system in 1960, Municipal Operations in 1974 replaced Industrial Operations in having the highest number of reports. Although the lead was only one report, the number of reports for Municipal Operations in 1974 showed a 16 percent increase over 1973.

- *The Majority of the Reports Again Indicate That Less Than 10,000 Fish Were Killed Per Incident in 1974*

While 71 percent of the reports submitted specified the size of the kill as less than 10,000 fish, the total number of fish killed in these reports was less than one percent of the 119.1 million fish reported killed in all incidents in 1974. Less than one percent of the reported incidents accounted for 90 percent of the total number of fish killed in 1974. However, each report regardless of size indicated the presence of some form of pollution and its effects.

Basic Statistics

In 1974, 721 reports were submitted (Table 1). Of this total, 648 reports (90 percent of the total) stated the number of fish killed. This represents a decrease

Table 1 contains historical data for the fourteen years that fish kill reports have been received. The table summarizes the following: The number of states reporting; the number of reported pollution-caused fish kill incidents; the number of reports which specify how many fish died; the reported number of fish killed; the largest single fish kill for each year;

the number of reports for each pollution source operation; and a breakdown of fish killed by size of kill. The number of incidents and the numbers of fish killed are probably understated because of incomplete reporting and the difficulties of estimating numbers of dead fish. Also, 17 percent of the reports do not specify how many fish were killed.

TABLE 1—Historical Summary of Pollution-Caused Fish Kills, June 1960–December 1974

	1960 ¹	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Number of States responding.....	28	45	37	38	40	44	46	40	42	45	45	46	50	50	50
Number of reports.....	299	413	421	442	500	625	532	454	542	594	635	860	760	749	721
Reports which state number of fish killed.....	151	265	246	304	470	520	453	364	469	492	583	758	687	703	648
Total reported number of fish killed.....	6,035,000	14,910,000	44,001,000	5,937,000	22,914,000	12,140,000	9,614,000	11,291,000	15,415,000	41,166,000	22,290,000	73,670,000	17,717,000	37,814,000	119,052,000
Average size of kill ²	2,925	6,535	5,710	7,775	5,490	4,310	5,620	6,460	6,015	5,860	6,412	6,154	4,639	5,527	6,532
Largest kill reported.....	5,000,000	5,387,000	3,180,000	2,000,000	7,887,000	3,000,000	1,000,000	6,548,000	4,025,000	25,527,000	3,240,000	5,500,000	2,922,000	10,000,000	47,112,000
Number of reported incidents for each pollution source operation:															
Agricultural.....	79	74	51	84	131	114	88	87	77	117	108	132	113	161	145
Industrial.....	103	169	209	199	193	244	195	139	177	199	213	231	189	195	168
Municipal ³	24	52	33	60	120	125	87	91	122	84	120	162	167	146	159
Transportation.....	0	0	1	17	26	27	27	23	39	32	28	52	56	65	40
Other.....	33	58	47	27	17	23	38	35	23	33	28	64	72	56	74
Unknown.....	50	60	80	55	103	92	97	79	104	129	138	219	163	125	125
Total reports.....	289	413	421	442	500	625	532	454	542	594	635	860	760	749	721
Number of reports and fish killed by size grouping.....															
1,000,000 or more.....	1	5.0	4	12.6	5	3	2.0	1	6.1	4	5	28	6	25.53	6
100,000 to 1,000,000.....	3	0.53	5	0.85	15	17	2.48	7	7.44	9	25	26	19	19	20
10,000 to 100,000.....	15	0.31	38	1.01	54	63	1.42	49	64	81	91	124	81	88	110
1,000 to 10,000.....	64	0.18	107	0.34	167	202	0.55	143	153	165	198	266	216	251	187
0 to 1,000.....	68	0.02	104	0.03	103	235	0.07	164	0.06	233	243	315	387	339	325
No size reported for incident.....	138	148	175	138	120	105	79	90	73	102	72	181	63	46	73
Average duration of kill in days.....	2.95	2.64	2.58	3.18	2.44	2.57	2.71	3.34	2.99	3.11	3.25	3.35	3.40	2.72	3.58

¹ Derived after excluding reports of 100,000 kills or more as being unrepresentative.

² Reporting system in effect for last six months of 1960.

³ Municipal operations include electric power-generating stations.

of 4 percent from 1973 (94 percent) but is still higher than the ratio for any other year, except 1972.

From 1961 through 1974, the total estimated number of fish killed ranged from a low of 6.9 million in 1963 to a record high of 119 million in 1974. In 1974 the 47 million fish reported killed in one incident in Back River, near Essex, Maryland eclipsed the 37.8 million reported killed in 1962 near San Diego Harbor, California. Three other incidents in Back River during the month of August reported separate kills of 31.9, 11.0, and 10.7 million. Each of these incidents reported more fish killed than any other single incident with one other exception: an incident in Lake Thonotossassa, Florida in 1969 in which 26.5 million fish were killed.

Excluding the 119.1 million fish killed in 1974 and the 73.6 million in 1971, the average number of fish killed for the twelve remaining years was 21.4 million. The 119.1 million fish reported killed in 1974 is 5.6 times as high as the average.

In 1974, as in previous years, most of the incidents were small—that is, they killed fewer than 10,000 fish apiece. Most fish were killed in very few incidents. A total of 101.3 million fish were reported killed in only four incidents.

Since the number of dead fish may not be indicative of the severity of the pollution, proper State officials should be notified even when only a small number of dead fish are seen floating on a water body. In cases where the fish kill was due to causes other than man-created pollution, State officials are still interested in determining the cause and should be notified.

In 1974, sources of pollution were identified in 596 of the 721 reports.

These kills are listed individually in Table 10. The 125 kills for which the pollution source could not be positively identified are listed in Table 11.

Total Fish Reported Killed

A total of 119 million fish were reported killed in 648 separate incidents of water pollution from all sources (Table 2). In the remaining 73 reports from the 721 reports submitted, fish losses were either not stated, or were not expressed in numerical terms.

The 119.1 million fish reported killed in 1974 brought the total number of fish killed (Figure 1) to 455.6 million in 6,953 separate incidents since the first full year of reporting (1961). These 6,953 separate incidents, plus 1,385 reported incidents which did not state the number of fish killed brought the total incidents for the 1961-1974 period to 8,338.

A total of 48 States reported at least one fish kill incident (Table 3). The remaining two States (Alaska and New Mexico) stated they had no recorded incidents of pollution-caused fish kills for 1974. The 1974 reports were more evenly distributed among the States than the 1973 reports. In 1973 four States (Alabama, New Jersey, Virginia, and Texas) accounted for 88 percent of the total reports.

Major Fish Kills

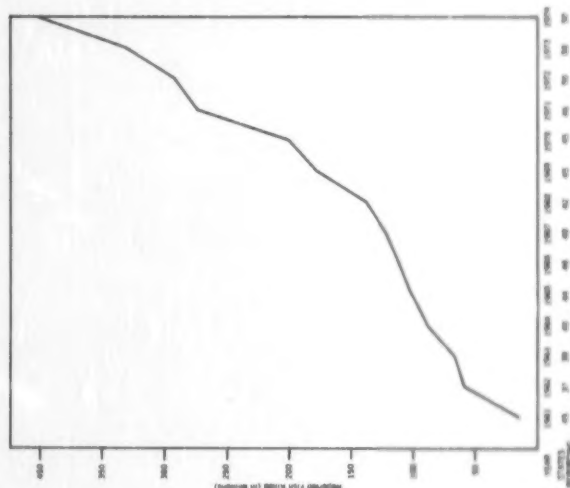
In 1974, 26 kills were reported in which the number of dead fish equaled or exceeded 100,000 each, accounting for 114.7 million fish (Table 4). Of these, six massive kills reached or exceeded the million mark. Four of these kills, in Back River near Essex, Maryland, accounted

Table 2 summarizes fish kills for 1974 by major and individual pollution sources, and provides further information on fish killed in the same and non-game categories by major pollution sources. Average size of fish kill for each major source is also included. Kills from natural causes are not included.

TABLE 2—Fish Kill Summary by Source of Pollution, 1974				
Source of pollution	Total reports	Reports specifying number of fish killed		Average kill*
		No. of reports	No. of fish	
Agricultural:				
Insecticides.....	89	74	1,078,681	.....
Fertilizers.....	8	8	51,227	.....
Mature-sludge drainage.....	48	46	721,596	.....
Subtotal.....	145	128	1,852,428	8,778
Industrial:				
Mining.....	25	20	247,068	.....
Food product.....	32	31	2,871,905	.....
Paper products.....	4	3	7,551	.....
Chemicals.....	42	40	630,884	.....
Petroleum.....	25	24	81,023	.....
Metals.....	14	14	600,954	.....
Combinations.....	2	2	1,939	.....
Other.....	24	23	121,244	.....
Subtotal.....	208	187	4,562,668	8,066
Municipal:				
Sewerage systems.....	142	128	100,662,413	.....
Refuse disposal.....	1	1	2,400	.....
Water systems.....	12	10	14,108	.....
Swimming pool.....	5	5	2,160	.....
Power.....	9	9	340,423	.....
Subtotal.....	169	154	110,021,304	8,465
Transportation:				
Rail.....	2	2	12,890	.....
Truck.....	26	26	79,507	.....
Barge or boat.....	3	2	37,200	.....
Pipeline.....	9	8	81,175	.....
Subtotal.....	40	38	210,772	5,546
Other operations.....	74	68	427,085	3,315
Unknown.....	125	103	1,962,306	3,686
Total.....	721	648	119,061,781	6,533

*Derived after excluding reports of 100,000 kills or more.

FIGURE 1.—Cumulative Reported Fish Killed, 1961 to 1974



OVER 450 MILLION FISH WERE REPORTED KILLED BY POLLUTION . . .

... over a 14 year period (Figure 1). This graph summarizes the reported number of fish killed for the 1961-1974 period. The first reporting year, 1960 was excluded since reports were not received for the full year. Many more dead fish probably go unreported due to the difficulties of estimating, and because they were not investigated immediately. This total is also low since 17 percent of the reports are not included because they did not state the number of fish killed.

Table 3 summarizes data from the 48 states which reported one or more pollution-caused fish kill incidents. Of the 721 reports submitted, 648 indicated the number of fish killed. The remaining 73 reports did not specify the number of fish killed. The table also shows the number of reports for incidents that occurred in rivers, lakes, and coastal waters.

TABLE 3.—Pollution-Caused Fish Kill Summary by State, 1974

State	Total reports	Reports specifying number of fish killed		Number of reports and water surfaces affected					
		Number of fish		River		Lake	Coastal waters*		
		Number of reports	Number of fish	Number of reports	Number of miles	Number of reports			
Alabama	26	25	4,962,144	20	659	6	1,332		
Arizona	2	2	83,600	2	43				
Arkansas	11	6	29,900	5	309	6	330		
California	39	37	348,434	26	24	10	10,968	3	56
Colorado	2	2	3,310	2	22				
Connecticut	11	10	121,430	6	7	4	4	1	
Delaware	1	1	2,000	1	2				
Florida	42	32	198,974	15	23	27	4,726	3	
Georgia	9	8	29,863	8	46	1			
Hawaii	4	2	1,200	1	1				
Idaho	1	1	500	1	130	1	740		4
Illinois	23	23	596,757	22	28	1	2		
Indiana	10	10	64,247	9	24	1	1		
Iowa	6	4	1,887	5	1	2	2		
Kansas	9	9	320,399	7	25	2	2		
Kentucky	10	7	163,377	10	61				
Louisiana	12	8	337,374	11	103	1	3		
Maine	1	1	12,000	1	5				
Maryland	15	15	101,948,816	7	9			3	1,541
Massachusetts	5	5	9,600	5	6				
Michigan	3	3	918	2	1	1			
Minnesota	1	1	3,000	1	20	1	40	1	5
Mississippi	3	3	42,000	1	112	8	40		
Missouri	38	32	163,220	30	157				
Montana	3	3	403,550	3	53	5	24		
Nebraska	14	14	890,297	9	2				
Nevada	1	1	2,500	1	2				
New Hampshire	2	3	2,600	1	1	2	157		4
New Jersey	64	54	278,697	43	107	20	104	1	
New York	24	23	373,575	23	85	1	5		
North Carolina	3	3	5,564	2	3	1	50		
North Dakota	13	13	389,000	2	175	11	3,336		
Ohio	97	97	3,639,427	97					
Oklahoma	8	4	65,836	5	28	3	623		
Oregon	8	8	7,889	5	9	2	10		
Pennsylvania	57	57	321,907	55	111	1	3		
Rhode Island	1	1	200			1			
South Carolina	2	2	3,500	1	100	1	2	4	
South Dakota	1	1	400,000	1	69				
Tennessee	19	13	290,535	18	12				
Texas	60	50	2,324,791	44	3				
Utah	1	1	200	1	1				
Vermont	1	1	95	1	1				
Virginia	17	15	71,311	11	13	3	13	3	**38,402
Washington	21	9	126,432	16	6				
West Virginia	11	11	72,225	11	23				
Wisconsin	6	6	31,700	6	22				
Wyoming	2	1	5,000	2	2				
Totals	721	648	119,951,781	555	2,616	142	22,524	24	40,012

*Includes embayments such as Chesapeake, San Francisco, and Galveston Bays.
** One report in Virginia estimated coastal water area in acres (38,400) but the data processing system converted this to miles.

*Includes embayments such as Chesapeake, San Francisco, and Galveston Bays.
 **One report in Virginia estimated coastal water area in acres (38,400) but the data processing system converted this to miles.

Table 4 lists the major fish kill incidents occurring in 1974 in which 100,000 or more fish were killed in each incident. Many more large kills may have gone unreported, or missed because they were not investigated immediately, and large kills may have been part of the reports that did not state a number for fish killed.

for 101.3 million dead fish—85 percent of the total reports. The other two massive kills were 3.8 million in Locust Fork, near Birmingham, Alabama, and 2.5 million in Radar Creek in Hancock County, Ohio.

Fish Killed, by Type of Water Body

Reports for 1974 indicate a significant increase compared to 1972 in fish reported killed in rivers or coastal waters and a small increase in fish reported killed in lakes (Table 5). Almost two-thirds (24.9 million) of the total fish reported killed died in rivers, while 21 percent (8.1 million) died in lakes, and 13 percent (4.8 million) died in coastal waters. In 1972, 33 percent (5.8 million) of the total fish reported killed died in lakes. Less than one percent (4 thousand) died in coastal waters, and 67 percent (11.9 million) died in rivers.

Fish Killed, by Type of Water

In 1974, the number of fish reported killed in estuary water (water of inlets, bays, or river mouths that are affected by tidal action) accounted for the largest number of fish reported killed of the three types of water (Table 6), followed

by fresh water (any inland water upstream of tidal action). A relatively small number of fish (362,500) were reported killed in salt water (water beyond the coastline).

In 1974, 88 percent (104.5 million) of the total reported fish were killed in estuary water as compared to 85.4 percent (32.3 million) in 1973. Over 12 percent of the fish (14.2 million) were killed in fresh water as compared to 14 percent (5.4 million) in 1973.

Fish killed in estuary water are of national concern since estuaries serve as breeding and nursery grounds for

many species of sport and commercial marine fish.

Fish Kills, by Month

As in the past, the greatest number of reports (57 percent) were submitted for the warm weather months (Table 7), from May through September. Warm weather can often combine with lower water levels during these months to compound the effects of pollution. Also, since more people are in, or on, the water during the summer, kills are more apt to be observed and reported.

TABLE 4—Major Kills—100,000 or Over—1974

Lake or stream	Near or in	State	Number of fish	Operation
Locust Fork	Birmingham	Alabama	703,673	Sewerage System
Locust Fork	Birmingham	Alabama	3,759,617	Sewerage System
Mallard Cr.	Courtland	Alabama	205,700	Poisons
Anaheim Bay	Huntington Bch.	California	200,000	Other Operations
Lake De Pue	De Pue	Illinois	188,030	Chemicals
Marais Des Cygnes	Ottawa	Kansas	266,899	Power
Boeuf R.	Columbia	Louisiana	150,000	Poisons
Back R.	Essex	Maryland	10,733,000	Sewerage System
Back R.	Essex	Maryland	31,900,000	Sewerage System
Back R.	Essex	Maryland	47,712,000	Sewerage System
Chesapeake Bay	Sparrows Point	Maryland	11,016,000	Sewerage System
Teton R.	Choteau	Montana	500,000	Metals
Salt Cr.	Lincoln	Nebraska	400,000	Manure Drainage
West Cr.	Eldora	New Jersey	792,520	Sewerage System
South Branch	Lackawanna	New York	200,000	Sewerage System
Wood Cr.	Rome	New York	100,000	Sewerage System
Johnson Cr.	Yates	New York	100,000	Chemicals
Radar Cr.	Hancock Co.	Ohio	2,540,394	Food Products
Scioto R.	Marion Co.	Ohio	133,322	Sewerage System
Sandusky R.	Sandusky Co.	Ohio	436,246	Sewerage System
Lt Chickies Cr.	Mt Joy	Pennsylvania	120,000	Sewerage System
James R.	Mitchell	South Dakota	400,000	Sewerage System
Galveston Bay	Galveston	Texas	900,000	Unknown
Galveston Bay	Galveston	Texas	710,000	Unknown
Highlands Bayou	Galveston	Texas	480,000	Sewerage System

Table 5 summarizes reported fish kills by type of water body (river, lake, and coastal waters), and the extent of the area reportedly affected (by miles or acres); Table 6 summarizes fish kills by type of water (fresh, salt, and estuary); and Table 7 summarizes fish kills, by month. The mileage and acreage figures cannot always be accurately estimated, so care should be exercised in their use.

TABLE 5—Fish Kill Summary by Type of Water Body, 1974

Type of water body	Total reports	Reports specifying number of fish killed		Reports specifying number of fish killed and extent of area affected	
		Number of reports	Number of fish	Miles	Acres
River.....	555	507	14,064,513	2,616	.....
Lake.....	142	120	1,242,043	.....	22,524
Coastal waters*	24	21	103,745,225	1,612	38,400
Total.....	721	648	119,051,781	4,228	60,924

*Includes embayments such as Chesapeake, San Francisco, and Galveston Bays.

Fish Kills, by Duration and Severity

Not all reports indicate duration of kill. In 1974, 63 percent (452 reports) indicated duration of kill with an average of 3.60 days (Table 8). In 1973, 59 percent (442 reports) indicated duration of kill with an average of 2.70 days. The two longest pollution incidents in 1974 lasted more than 90 days. These incidents occurred in Lake Barton, Florida (180 days), and in the James River, South Dakota (150 days). North Dakota reported ten incidents where the pollution effects continued from 15 days in the shortest incident to 85 days in the longest.

The severity of a fish kill is reported as "complete", "heavy", "moderate", or "light" (Table 8). Eighty-five "complete" fish were reported, averaging 13,497 fish per report. "Heavy" kills averaging 11,559 fish were reported on 229 occasions. "Moderate" kills were reported on 130 occasions, averaging 3,212 fish per kill. "Light" kills were reported on 140 occasions, averaging 1,014 fish per kill. Table 8 also indicates the average duration of fish kills by severity of kill, as well as the number and percentage of fish kill reports given jointly for severity of kill and major source of pollution.

TABLE 6—Fish Kill Summary by Type of Water, 1974

Type of water	Total reports	Reports specifying number of fish killed	
		Number of reports	Number of fish
Fresh*	661	594	14,235,499
Salt**	12	11	362,500
Estuary***	48	43	104,453,782
Total.....	721	648	119,051,781

*Fresh water includes any inland water upstream of tidal action.

**Salt water means water beyond the coastline.

***Estuary means the water of inlets, bays, or river mouths that are affected by tidal action.

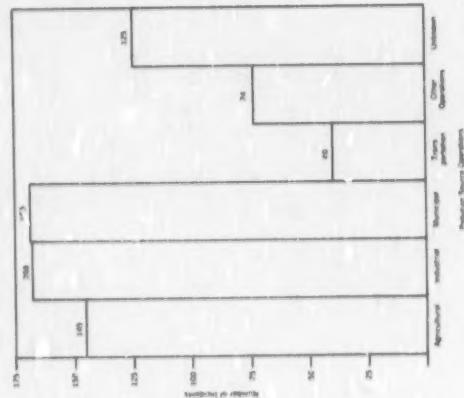
TABLE 7—Fish Kill Summary by Month, 1974

Month	Total reports	Reports specifying number of fish killed	
		Number of reports	Number of fish
January.....	31	27	531,193
February.....	22	18	76,093
March.....	45	35	569,374
April.....	51	48	810,319
May.....	69	63	1,074,203
June.....	89	85	1,033,976
July.....	115	103	4,899,571
August.....	133	117	105,882,586
September.....	74	66	3,102,241
October.....	46	43	462,656
November.....	33	31	534,748
December.....	13	12	74,821
Total.....	721	648	119,051,781

Pollution-Causing Operations

In 1974, pollution from municipal operations ranked first with 169 reports (Figure 2). In 1973, pollution from municipal operations ranked second with 145 reports. This comparison indicates a significant increase of reported incidents (24 reports); a 17 percent change between the two reporting years. Industrial operations, which ranked second in 1974 with 168 reports, had consistently led all other major pollution source operations in each of the prior 14 years of the reporting system.

FIGURE 2—Number of Fish Kill Reports by Major Pollution Source Operations (Total 721)



OF THE FIVE MAJOR SOURCES OF POLLUTION, MUNICIPAL OPERATIONS LED IN THE NUMBER OF REPORTED INCIDENTS IN 1974 . . .

. . . with Industrial Operations in second place. Figure 2 shows the number of reported fish kill incidents for each pollution source operation. The unknown category (unidentified pollution sources) has been added to show the distribution of total reported incidents. Kills from natural causes are not included.

Table 8 summarizes the reported duration and estimated severity of fish kills, their average size, and the number and percent of reports for the different pollution sources. These figures cannot always be accurately estimated, so care should be exercised in their use.

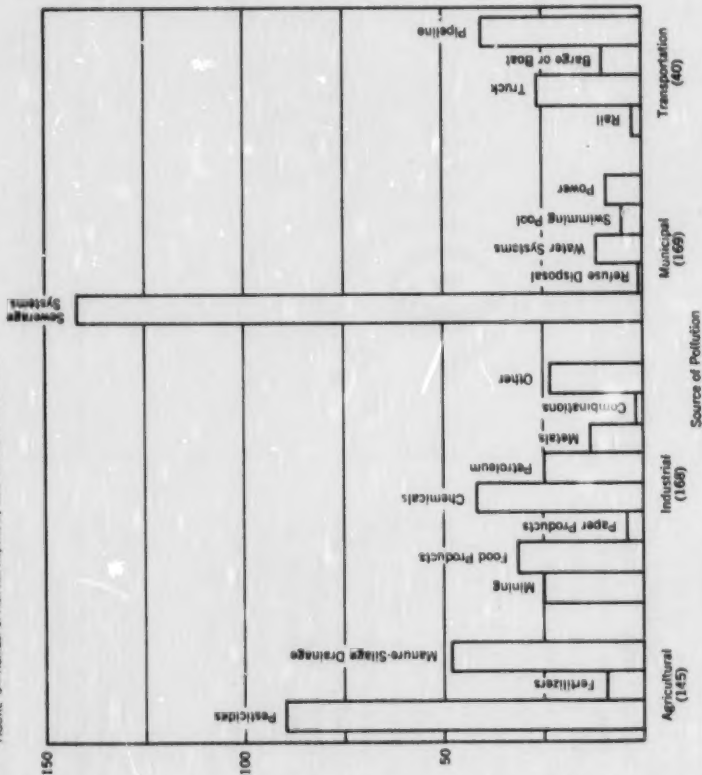
TABLE 8—Fish Kill Summary by Duration and Severity of Kill, 1974

Severity of Kill	Num-ber of reports	Average kill ^a	Duration of Kill		Agricultural		Industrial		Municipal		Transportation		Other Operations		Unknown	
			No.	Average (days)	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Complete kill	85	13,497	64	7.5	25	17	15	9	19	11	5	12	11	14	10	8
Heavy kill	229	11,559	182	3.1	53	37	57	34	51	30	15	38	18	24	35	28
Moderate kill	130	3,212	97	2.0	22	15	41	24	28	17	10	25	12	16	17	13
Light kill	140	1,014	87	2.6	21	14	32	19	26	15	7	18	17	23	27	30
Not stated	137	8,439	22	6.4	24	17	23	14	45	27	3	7	16	21	26	21
Total	721	6,533	452	3.6	145	100	168	100	169	100	40	100	74	100	125	100

^aIncludes all fish killed as reported plus an allowance computed for reports which did not indicate the number of fish that died.

^bDerived after excluding 25 reports of 100,000 kills or more.

FIGURE 3—Number of Fish Kill Reports by Detailed Source of Pollution



SEWERAGE SYSTEMS UNDER MUNICIPAL OPERATIONS . . .

. . . led all other individual sources of pollution in the number of reported fish kill incidents. Figure 3 shows the number of reported incidents for each individual pollution source.

OF THE FIVE MAJOR SOURCES OF POLLUTION, MUNICIPAL OPERATIONS LED IN THE NUMBER OF FISH REPORTED KILLED . . .

. . . with industrial operations in second place. Figure 4 shows the number of fish reported killed by each pollution source operation. Due to the large number of fish kill incidents by unidentified pollution sources, the unknown category has been added to this graph. In 1974, the number of fish killed by unknown sources was about 10 percent of the number killed by the leading identifiable pollution source.

FIGURE 4—Reported Number of Fish Killed by Major Pollution Source Operation



In 1974, pollution from agricultural operations ranked third with 145 reports. In 1973, pollution from agricultural operations ranked second in the number of reports (161). Reports of pollution from agricultural and municipal operations were almost reversed in number from 1973 to 1974: (1974-agricultural operations, 145; municipal operations, 161; and 1973-agricultural operations, 161; municipal operations, 145).

In 1974, pollution from "other operations" ranked fourth with 74 reports. In 1973, pollution from other operations ranked fourth in the number of reports (65).

In 1973, pollution from transportation operations ranked fifth, and last, with 40 reports. In 1973, pollution from transportation operations ranked fifth with 56 reports.

OF THE TWENTY-ONE DETAILED SOURCES OF POLLUTION ...

... "sewerage systems" was the leading killer of fish in 1974 according to State reports. Figure 5 shows how many fish were killed by each kind of pollution source.

The term "unknown operations" is applied to situations where a fish kill cannot be linked to a specific pollutant or pollution source, but an investigator is reasonably confident that the fish did not die from natural causes. In many cases an investigator is not notified that a fish kill occurred until it is too late to identify a specific pollution agent due to deterioration of the fish.

In 1974, pollution from unknown operations was responsible for 125 reports. The source of pollution was unidentified for approximately 17 percent of all reports received. In 1973, pollution from unknown operations was also responsible for 125 reports; the source of pollution was unidentifiable in approximately 17 percent of all reports received.

Figure 3 summarizes the number of fish kill reports by detailed source of pollution within each of the preceding major pollution source operations.

Figure 4 summarizes the number of fish reported killed by each major pollution source operation. Municipal operations ranked first (110 million), followed by industrial operations (4.6 million), agricultural operations (1.9 million), and transportation operations (0.2 million). Figure 5 summarizes the number of fish reported killed by each detailed pollution source operation.

FIGURE 5—Reported Number of Fish Killed by Detailed Pollution Source Operation

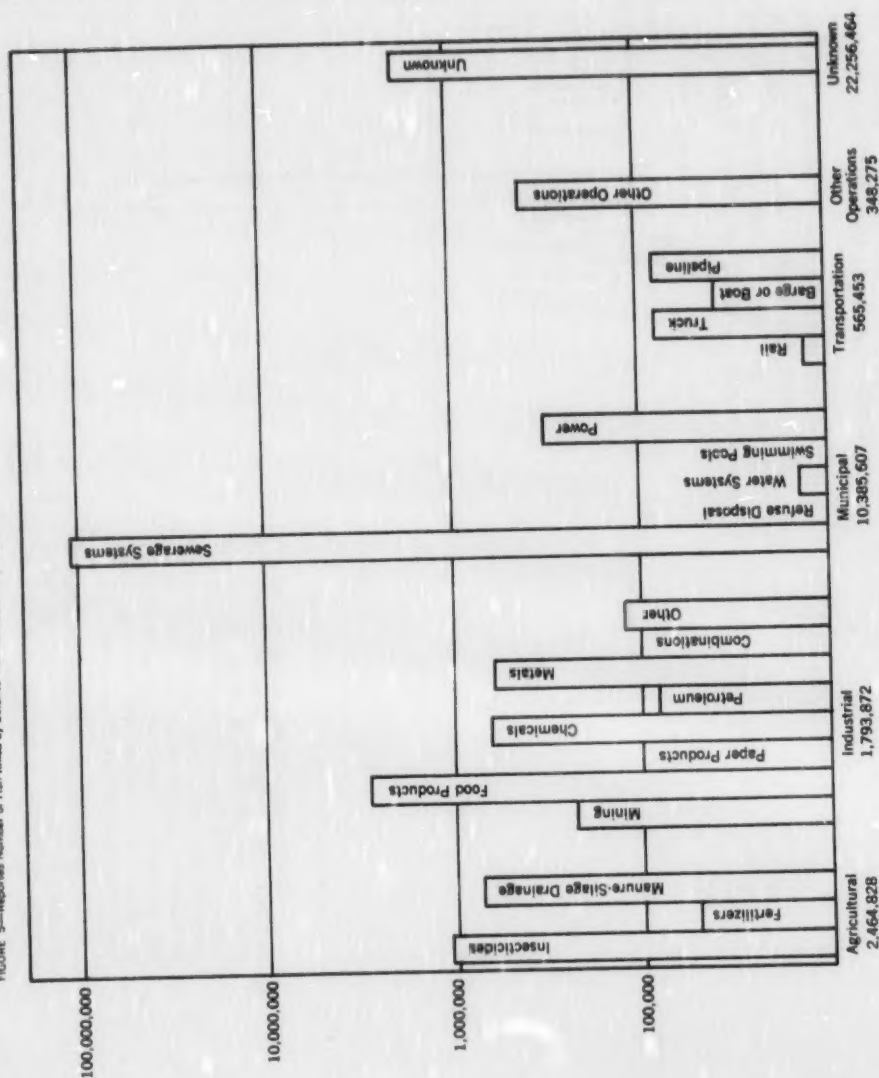


Table 9 summarizes the number of reported pollution-caused fish kill incidents by individual source of pollution for each EPA region. Region VIII again reported the smallest number of fish kill incidents (22 reports) while Region V (140 reports) led in the number of reported incidents.

Regional Data

Table 9 summarizes the reported number of pollution-caused fish kill incidents and pollution source operations within each Environmental Protection Agency Region. This table permits a comparison of the frequency of reported incidents in different sections of the U.S. due to different pollution sources. Figures 5 through 15 are bar charts for each Environmental Protection Agency Region. These charts indicate the percent of reported incidents within a given region for individual sources of pollution, and also list the States within each respective region. Figures in the charts are derived from Table 9.

Agricultural Operations

In 1973, pesticides in Region IV (34 reports) was the most frequently reported individual source of pollution under agricultural operations for any of the ten regions. In 1972, manure-silage drainage in Region VII (18 reports) was reported most frequently among all regions.

TABLE 9—Number of Fish Kill Reports by Source of Pollution Within EPA Regions, 1974

Source of pollution	EPA regions										Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	
Agricultural:											
Pesticides	1	4	5	27	3	33	4		9	3	89
Fertilizers		1		1	3	1		1		1	8
Manure-silage drainage		2	4	3	20		12	6		1	48
Subtotal	1	7	9	31	26	34	16	7	9	5	145
Industrial:											
Mining		2	4	4	2	1	8	2		1	25
Food products		6	6	2	11		2	1	2	2	32
Paper products						1	1				4
Chemicals	5	10	8	9	5	3	2				42
Petroleum		5	6		1	11	1			1	25
Metals	1	3	5	2	1	1	1				14
Combinations			2								2
Other	1	3	6	4	3	4	2	1			24
Subtotal	7	29	37	21	25	21	17	3	4	4	168
Municipal:											
Sewerage systems	2	20	12	32	40	10	12	7	3	4	142
Refuse disposal			1								1
Water systems		2	2		2	1			3	2	12
Swimming pool	1	1	2					1			5
Power		4	1				3		1		9
Subtotal	3	27	18	32	42	11	15	8	7	6	169
Transportation:											
Rail	1							1			2
Truck	2	4	13		2		3		2		26
Barge or boat			1	1						1	3
Pipeline			1		3	1	4				9
Subtotal	3	4	15	1	5	1	7	1	2	1	40
Other operations	4	10	12	5	18	1	4	2	14	4	74
Unknown	4	11	10	24	24	23	8	1	10	10	125
Total	22	88	101	114	140	91	67	22	46	30	721

In 1974, pesticides were responsible for 27 reported incidents in Region IV, 33 reported incidents in Region VI, and 7 reported incidents in Region IX, making it also the leading agricultural source of reported pollution caused fish kill incidents for all regions combined. In 1973, pesticides were also the leading agricultural source of reported incidents for all regions combined. Manure-silage drainage was the second most frequently reported pollution source (48 reports). Almost half of these reports (20) came from Region V.

In 1974, fertilizers were reported as the pollution source in 8 fish kill incidents from Regions II, IV, V, VI, VII, and X, but represented only 6 percent of the agricultural operations total. In 1973, fertilizers were reported as the pollution source in 18 fish kill incidents from Regions II, IV, V, VII, IX, and X, and represented 11 percent of the total for agricultural operations.

The total number of reported pollution-caused fish kill incidents from agricultural operations decreased from 161 reported incidents in 1973 to 145 in 1974, a difference of 16 reported incidents (10 percent). Fertilizers, with a decrease of 10 reports, were responsible for 56 percent of the decrease, while the decrease in reported incidents between pesticides (2 reports) and manure-silage drainage (4 reports) accounted for the rest.

Municipal Operations

In 1974, sewerage systems in all regions were again the most frequently reported individual source of pollution under municipal operations, totalling 142 reported

fish kill incidents. Regions II, IV, and V accounted for 92 reported incidents, or 54 percent of all pollution-caused fish kill incidents resulting from municipal operations.

In 1973, sewerage systems were also the most frequently reported pollution source, totalling 115 reported pollution-caused fish kill incidents. Regions IV, V, VI, and VIII accounted for 89 reported incidents, or 61 percent of all reported incidents.

In 1974, the total number of reported pollution-caused fish kill incidents for sewerage systems was 142 incidents, while the 1973 total was 115 incidents, a 23 percent increase. Significant changes occurred in Regions II, and VIII, where the number of reported incidents increased from 9 incidents in 1973 to 27 incidents in 1974, reflecting a 200 percent change. The largest part of this change (18 reports) occurred in Region II.

Industrial Operations

In 1974, industrial operations accounted for less pollution-caused fish kill incidents (168) than the leading pollution source operation, municipal operations (169). This was the first year since the beginning of the reporting system where industrial operations were not the leader. The 14 percent decrease in reported incidents from 1973 to 1974 (196 to 168 reports) continued the downward trend from peak year reports of 1971 (213 reports).

In 1974, (food products in Region V and petroleum in Region VI) (11 reports each) were the most frequently reported individual sources of pollution under in-

dustrial operations for any given region, and chemicals (42 reports) was the most frequently reported individual source of pollution for all regions combined.

In 1973, petroleum in Region III (11 reports) was the most frequently reported individual source of pollution under industrial operations for any given region.

Transportation Operations

In 1974, transportation operations (40 reports for all regions) had the smallest number of reported fish kill incidents of any major pollution source operation. The 13 reported incidents for truck from Region III represented the largest number of reports for any single source of pollution within the transportation operations category, or 33 percent of the total reports. Pipeline operations, an individual source of pollution, accounted for 23 percent of the total incidents for all regions under transportation operations.

In 1973, transportation operations (65 reports for all regions) also had the smallest number of reported fish kill incidents of any major pollution source operations. Truck operations, under this category, accounted for 31 reported incidents, or 48 percent of the total.

Other Operations

Other operations are a general category for those identifiable sources of pollution which do not fall under the other four categories.

In 1974, Region V, with 18 reported fish kill incidents accounted for 24 percent of the total 74 reported incidents

caused by pollution from other operations. In 1973, 16 fish kill incidents were reported for Region IV, and these 16 incidents represented 29 percent of the total (56) fish kill incidents reported under the other operations category.

The increase in reported incidents (9 reports) for other operations from 1973 to 1974 is highlighted by the 260 percent increase in Region V (from 5 to 18 reports), and the 367 percent increase in Region IX (from 3 to 14 reports). Region IV, however, showed a 68 percent decrease (16 to 5 reports) from 1973 to 1974.

IN 1974, "SEWERAGE SYSTEMS" HAD THE HIGHEST PERCENTAGE OF TOTAL REPORTS (20 PERCENT) . . .

. . . for all regions combined (Figure 6) among individual sources of pollution. This percentage is based on 142 reports. Pesticides was second among the pollution sources with 12.3 percent (89 reports).

FIGURE 6—Pollution Caused Fish Kills in All Regions

Source of Pollution by Percent of Total Reports (based on 721 reports)

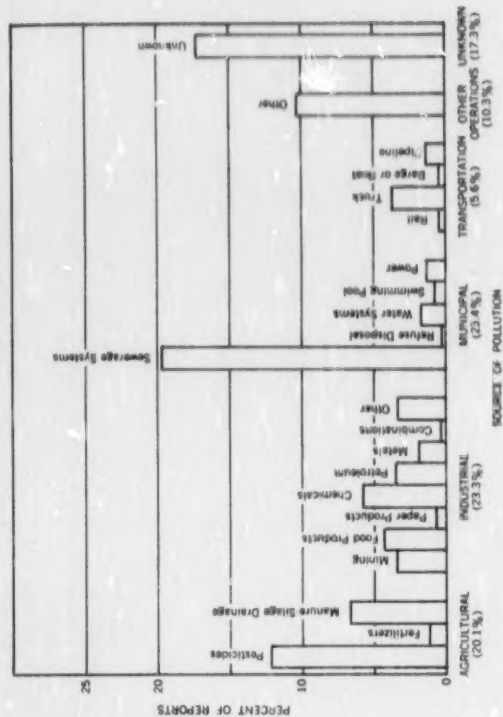
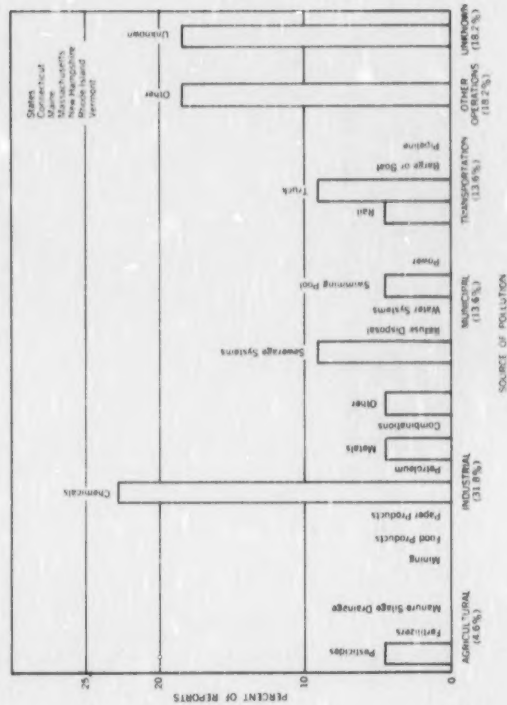


FIGURE 7—Pollution Caused Fish Kills in Region I

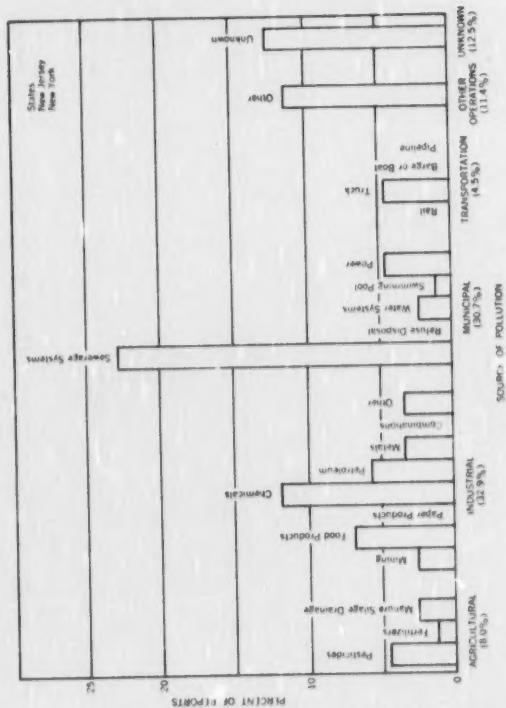
Source of Pollution by Percent of Total Regional Reports (based on 22 reports)



IN 1974, "CHEMICALS" LED IN REGION I . . . among individual sources of pollution (Figure 7) with 22.7 percent of the total number of reported fish kill incidents in the region. These percentages are based on 22 fish kill reports in Region I.

FIGURE 8—Pollution Caused Fish Kills in Region II

Source of Pollution by Percent of Total Regional Reports (Based on 88 reports)



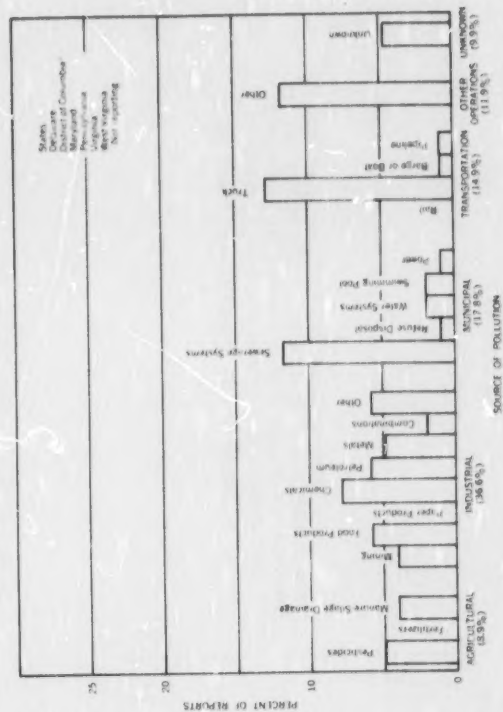
IN 1974, "SEWERAGE SYSTEMS" LED IN REGION

II . . .

. . . among individual sources of pollution (Figure 8) with 22.7 percent of the total number of reported fish kill incidents in this region, while pollutants due to "chemicals" and "food products" operations were second and third with 11.4 percent and 6.8 percent respectively. These percentages are based on 88 reports.

FIGURE 9—Pollution Caused Fish Kills in Region III

Source of Pollution by Percent of Total Regional Reports (Based on 101 reports)

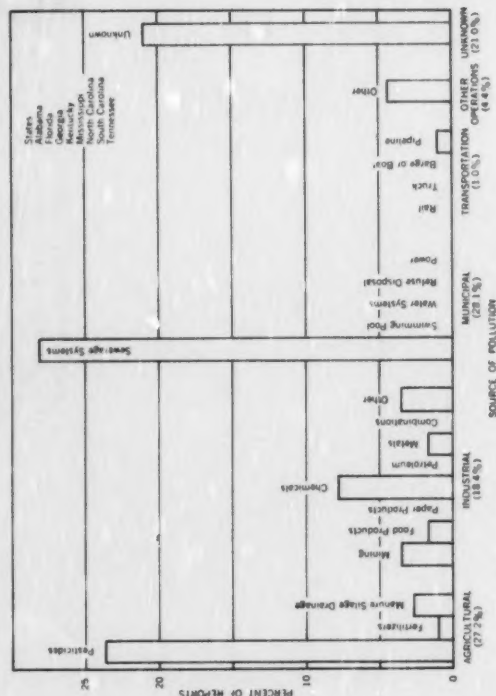


IN 1974, "TRUCK" LED IN REGION III . . .

. . . among individual sources of pollution (Figure 9) with 12.9 percent of the total number of reported fish kill incidents in this region, while "sewerage systems" was second with 11.9 percent of the reported total. These percentages are based on 101 fish kill reports in Region III.

FIGURE 10—Pollution-Caused Fish Kills in Region IV

Source of Pollution by Percent of Total Regional Reports (Based on 114 reports)

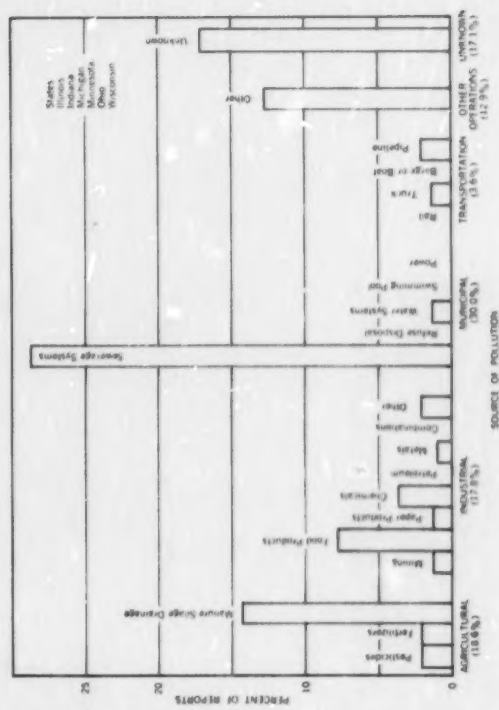


IN 1974, "SEWERAGE SYSTEMS" LED IN REGION IV . . .

. . . among individual sources of pollution (Figure 10) with 28.1 percent of the total number of reported fish kill incidents in this region, while "pesticides" was second with 23.7 percent of the reported total. These percentages are based on 114 reports in Region IV.

FIGURE 11—Pollution-Caused Fish Kills in Region V

Source of Pollution by Percent of Total Regional Reports (Based on 140 reports)



IN 1974, "SEWERAGE SYSTEMS" LED IN REGION V . . .

. . . among individual sources of pollution (Figure 11) with 28.6 percent of the total number of reported fish kill incidents in this region, while "manure-silage drainage" was second with 14.3 percent of the reported total. These percentages are based on 140 reports in Region V.

IN 1974, "PESTICIDES" LED IN REGION VI . . . among individual sources of pollution (Figure 12) with 36.3 percent of the total number of reported fish kill incidents in this region, while "petroleum" was second with 12.1 percent of the reported total. These percentages are based on 91 reports in Region VI.

FIGURE 12—Pollution Caused Fish Kills in Region VI
Source of Pollution by Percent of Total Regional Reports (based on 91 reports)

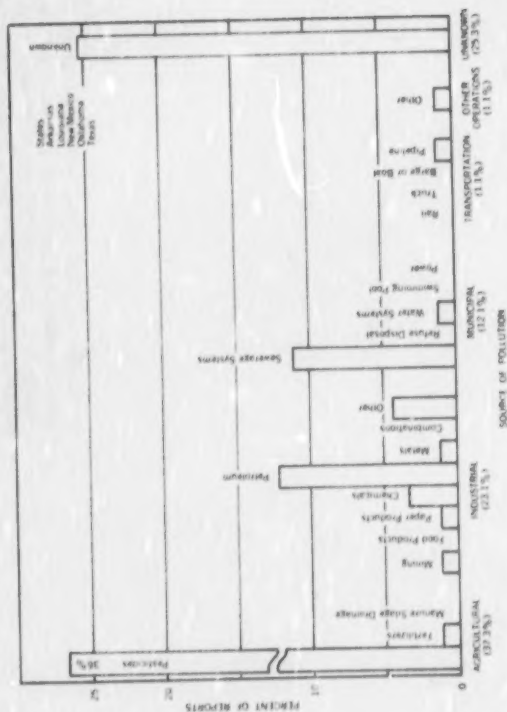
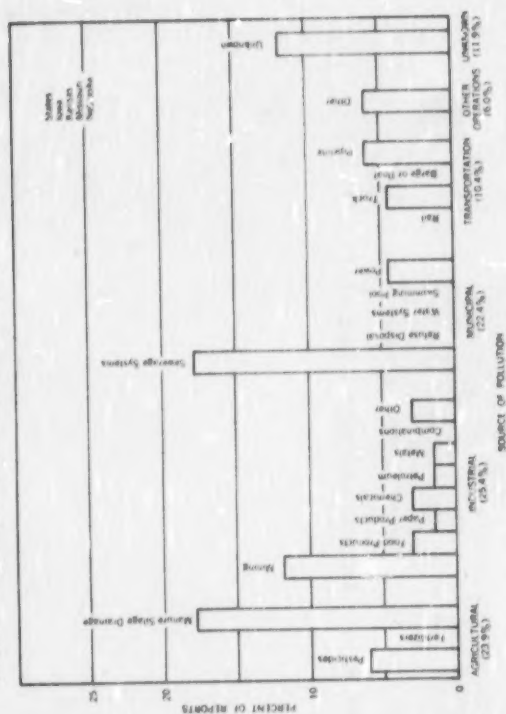


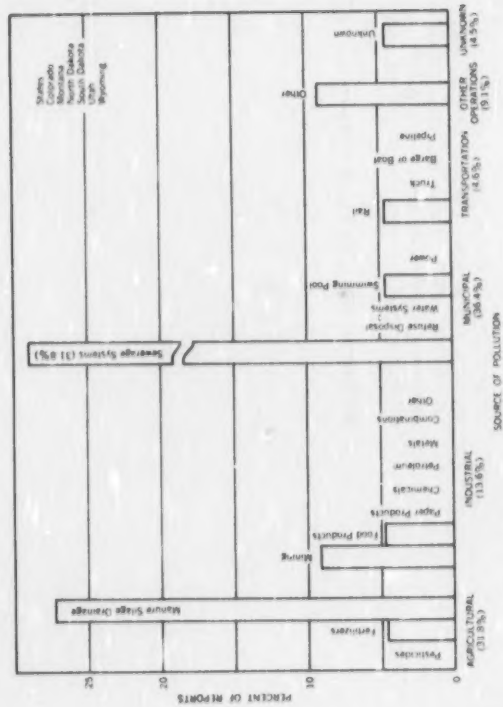
FIGURE 13—Pollution Caused Fish Kills in Region VII
Source of Pollution by Percent of Total Regional Reports (based on 67 reports)



IN 1974, "SEWERAGE SYSTEMS" AND "MANURE-SILAGE DRAINAGE" LED IN REGION VII . . . among individual sources of pollution (Figure 13) with 17.9 percent of the total number of reported fish kill incidents in this region, while "mining" was third with 11.9 percent of the reported total. These percentages are based on 67 reports in Region VII.

FIGURE 14.—Pollution Caused Fish Kills in Region VIII

Source of Pollution by Percent of Total Regional Reports (Based on 22 reports)

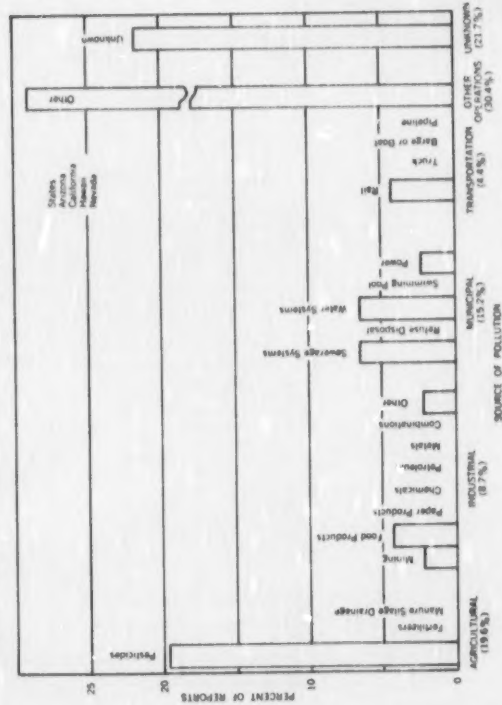


IN 1974, "SEWERAGE SYSTEMS" LED IN REGION VIII . . .

. . . among individual sources of pollution (Figure 14) with 31.8 percent of the total number of reported fish kill incidents in the region, while "manure-silage drainage" was second with 27.3 percent of the reported total. These percentages are based on 22 reports in Region VIII.

FIGURE 15.—Pollution Caused Fish Kills in Region IX

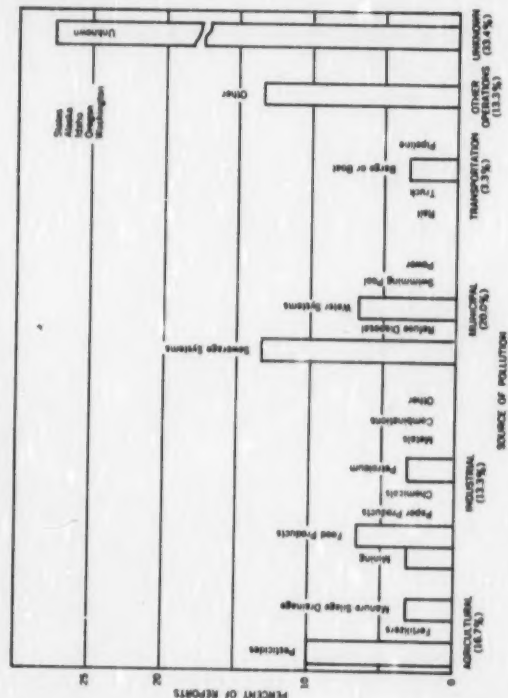
Source of Pollution by Percent of Total Regional Reports (Based on 46 reports)



IN 1974, "PESTICIDES" LED IN REGION IX . . . among individual sources of pollution (Figure 15) with 19.6 percent of the total number of reported fish kill incidents in this region, while "sewerage systems" was second with 17.2 percent of the reported total. These percentages are based on 46 reports in Region IX.

FIGURE 16—Pollution-Caused Fish Kills in Region X

Source of Pollution by Percent of Total Regional Reports (based on 30 reports)



IN 1974, "SEWERAGE SYSTEMS" LED IN REGION X . . .

. . . among individual sources of pollution (Figure 16) with 13.3 percent of the total number of reported fish kill incidents in the region, while "pesticides" was second with 10 percent each of the reported total. These percentages are based on 30 reports in Region X.

Table 10 lists the 596 reported fish kills for which the pollution-source was specified. Tabular heading information for each fish kill includes state, body of water, city or town, date of kill, cause, type of fish killed (game

or non-game), percent of fish having commercial value, estimated number of fish killed, severity, extent of damage, and duration.

TABLE 10—Report of Fish Kills, 1974—Cause Identified

Body of water	City or town	Date	Cause see code page	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity see code page 26	Estimated miles or acres affected page 35	Duration Days Hrs.
				Percent game	Percent non- game					
ALABAMA										
Locust Fork	Birmingham	10 24 74	31	11	89	12	68,305	3	5M	4
Locust Fork	Birmingham	9 02 74	31	1	99	1	703,673	2	1M	3
Locust Fork	Birmingham	9 07 74	31	1	99	99	1,367	4	1M	3
Locust Fork	Birmingham	7 31 74	31	1	99	99	3,750,617	2	1M	4
Glaza Cr.	Birmingham	9 03 74	31	1	99	99	2,507	4	3M	6
Beas Cr.	Cherokee	8 15 74	11	27	73	49	69,932	2	1M	
Spring Cr.	Cherokee	10 09 74	11	6	94	3	186	4	500A	1
Waller Cr.	Courtland	9 03 74	11	3	97	3	205,700	2	1125A	2
Limestone Co Tas.	Courtland	9 09 74	11	3	97	23	28,248	3	50A	
Wheeler Res.	Decatur	3 12 74	31	1	99	99	30,730	3	4M	
Mulberry Fl.	Decatur	9 15 74	11	28	72	15	4,216	4	5M	
Big German Cr.	Greensboro	8 20 74	11	72	28	28	47	4	7A	
Neely Henry Res.	Hokes Bluff	8 19 74	11	42	58	4	14,350	3	2M	
Caney Cr.	Hokes Bluff	6 08 74	13	85	15	12	5,907	3	2M	
Calome Cr.	Montgomery	7 30 74	31	1	99	35	4,315	3	6M	
Paint Rock River	Montgomery	8 01 74	11	43	57	23	82	2	10M	
W Fl-Flint Cr.	New Hope	8 15 74	11	78	22	22	102	3	90A	2
Black Warrior R.	Pumpkin Center	8 15 74	11	60	40	19	13,992	2	10M	
Soapstone Cr.	Sawyerville	8 04 74	11	9	91	3	29,747	2	97A	
Dunngoon Slough	Selma	8 17 74	11	19	81	30	858	4	3A	
Neely Henry Res.	Sheffield	8 12 74	11	9	91	8	1,280	3	2M	
Big Rance Cr.	Southside	9 10 74	11	90	10	5	2,988	3	3M	
North R.	Town Cr.	9 03 74	11	87	13	13	31	3	3M	
Black Warrior R.	Tuscaloosa	7 29 74	24	39	61	42	10,686	2	6M	
North River	Tuscaloosa	8 18 74	11	96	4	4	3,538	3	10M	
Bassett Cr.	Whitley	7 13 74	11						5M	
ARIZONA										
Verde R.	Camp Verde	5 08 74	11	6	94		2,000	1	2M	
Yuma Co System	Yuma	8 11 74	11	75	25		81,680	1	41M	
ARKANSAS										
Bayou Bartholomew	Boydell	7 30 74	11	25	75	60		2	2M	2
Jackson Bayou	Brasfield	9 06 74	11					2	1M	
Bayou Two Prairie	Carlisle	9 16 74	11					1	4M	
Lake Wallace	Dermott	9 15 74	11	15	85	10	6,000	1	10A	1
Grand Lake	Dermott	9 15 74	11	15	85	20	6,000	1	30A	1
Lower La Chicot	Eudora	9 15 74	11	10	90	10	12,000	1	100A	1
Private Pond	Lake Village	9 15 74	11					2	10A	3
Bayou Meis	Lehl	7 20 74	11					3	2M	1
Grampus Lake	Lonoke	5 15 74	11	70	30	10	5,000	1	30A	1
Lake Pine Bluff	Montrose	9 15 74	11	35	65	5	5,400	1	150A	1
Lt Bayou Melo	Pine Bluff	1 17 74	24	19	81	5	3,400	3	200A	4
	Reydel	8 23 74	11	42	58	50	500	3		
CALIFORNIA										
Cocopa canal	Bard	5 07 74	11	100			15,000	2		1
Bard Drain	Bard	10 03 74	11	95	5		390	2	2M	3
Hutchison Cr.	Beale AF Base	9 19 74	31	40	60		600	1		
Irrigation Canal	Blythe	10 10 74	11	85	15		3,100	2	2M	1
Napa R.	Calistoga	11 25 74	50	90	10		1,000	2		
Little Squaw Cr.	Central Valley	5 24 74	21	99	1		775	2		
Hunter Cr.	Delevan	5 27 74	11	3	97		200	3		
Grizzly Cr.	Fortuna	8 15 74	42	100			60,000	2	1M	1
Flood Control Chl.	Huntington Bch.	10 08 74	31	1	99	5	200,000	1	900A	3
Anaheim Bay	Huntington Bch.	9 14 74	30	20	80		2,500	2		1
Elm Ca.	Imperial County	11 26 74	11	70	30		12,000	2	15A	1
Yuma Main Ca.	Indian Rock	8 11 74	11	70	30		4,000	3	15A	1
Diablo Cove	Avila Beach	7 21 74	39	100		100	6,000	4	1M	3
San Geronimo Cr.	Marin Co	8 05 74	33	100			60	4	1M	1
San Rafael Cr.	Marin Co	12 12 74	90	17	83		1,125	3		
Jack-Simmerly Sl	Marysville	4 16 74	90	40	60		11	3	1M	2
Unnamed Stream	Oakville	4 15 74	33	20	80		390	2	1M	24
Hangtown Cr.	Placerville	3 23 74	50	99	1		18	4	1M	
Brickyard Cr.	Red Bluff	3 14 74	50	67	33		200	2	2A	
Unnamed Lake	San Benito Co.	11 — 74	22	100			900	4	1M	2
Coyote Cr.	San Jose	2 26 74	42		100		1,400	2	1M	1
San Leandro Cr.	San Leandro	6 12 74	90	95	5		240	2	1M	1
S Luis Obispo Cr.	San Luis Obispo	10 18 74	90	50	50		1,000	2	2M	1
Guadalupe R.	Santa Clara Co.	8 13 74	22		100		20,000	2	40A	2
Santa Cruz Harbr	Santa Clara Co.	8 06 74	90	1	99	99	1,000	2	1M	1
S Fl Santa Rosa	Santa Cruz	7 09 74	28	50	50		1,500	2	1A	1
Anaheim Bay	Oakmont	3 29 74	90	99	1	35	1,000	2	1A	1
Anaheim Bay	Seal Beach	3 27 74	90	100		30	500	3	1A	1
Anaheim Bay	Seal Beach	3 21 74	60	100			190	3	1A	24
So Lake Tahoe	Seal Beach	6 21 74	33	68	32		25	4	80A	3
Indian Cr Reserv	Woodfords	6 05 74	31	100						
COLORADO										
Vasquez Cr.	Hideaway Park	6 09 74	41	70	30		890	2	10M	2
Eagle R.	Minturn	7 19 74	21	80	20		2,420	2	12	
CONNECTICUT										
Black Rock Harbr	Bridgeport	9 15 74	31		100	100	87,500	2	1M	
Stoney Brook	Darien	8 20 74	42	3	97		2,400	1	2M	
Shepard Brook	Hamden	4 05 72	11	50	50		500	2		

See footnotes at end of table.

TABLE 10—Report of Fish Kills, 1974—Cause Identified—Continued

Body of water	City or town	Date	Cause: see code page	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity: see code page 26	Estimated miles or acres affected: page 26	Duration Days Hrs.
				Percent game	Percent non-game					
CONNECTICUT—Con.										
Meeting House Br.	Meriden	4 22 74	50		100		500	1	2M	
New Haven Harbor	New Haven	6 19 74	31		85	100	29,000	3		
Unnamed Pond	Oxford	11 08 74	50	15	85	100	2,300	1	2A	
Flag Swamp Brook	Southbury	6 26 74	50	80	20		50	1	1M	
Housatonic R.	Stratford	7 01 74	26		100	100	8,000	3		10
Hannock Brook	Waterbury	8 17 74	24	25	75		125	3	1M	1
DELAWARE										
Red Clay Cr.	Stanton	8 18 74	28	5	95		2,000	2	2M	
FLORIDA										
Pond	Alachua Co.	1 07 74	24	100			50	3	1A	1
Lake Charlotte	Apopka	2 25 74	31		100			4		1
Lake Denton	Avon Park	4 06 74	11	100			150	4	1A	24
L-9 Canal	Belle Glade	1 04 74	12	100			50	4	1M	1
Ed McElvin Pd.	Blountstown	9 04 74	11	90	10		3,000	2	1A	3
Lake Hibiscus	Deberry	8 05 74	28				600	4	10A	3
Lake Hibiscus	Deberry	6 11 74	28	100			1,000	2	6A	1
Lake-Catalina Pk.	Eatonville	3 01 74	31		100					
Pearl Lake	Forest City	4 14 74	22	50	50		99,121	3	2M	1
Canal	Ft. Lauderdale	4 14 74	31	53	47		1,000	3	3M	1
Altapulgus Cr.	Harvard	5 03 74	31	53	47		8,577	3	4M	1
Pd-Corbett Camp	Indian town	5 23 74	31	50	50		60	3	1A	2
Moncrief Cr.	Jacksonville	5 06 74	31		100		533	3	1M	1
Lake Jackson	Kennansville	3 10 74	13				115	4	1M	2
Lake Francis	Lake Placid	5 06 74	11	70	30		235	4	1M	2
Turkey Cr.	MacClenny	3 21 74	31	50	50					
Turkey Cr.	MacClenny	10 30 74	31	25	75		42,653	3	10A	3
Marco Is Golf Pd.	Naples	6 12 74	31	75	25		150			
Lake Lucerne	Orlando	2 28 74	31		100					
Lake Copeland	Orlando	2 18 74	31		100					
Lake Barto's	Orlando	1 01 74	31		100					99
Lake Lancaster	Orlando	3 03 74	31		100					1
Trout Cr.	St. Johns Co.	4 29 74	31	60	40		200	4		4
Lt Wekiva R.	Seminole Co.	12 27 74	11				100	4	1M	2
Pearl R.	Seminole Co.	3 15 74	28	50	50		25,000	4	1M	2
Lake Owens	Umatilla	8 09 74	31				1,460	4	56A	9
Holmes Cr.	Vernon	5 21 74	31	100			1,275	4	1M	3
Lake Apopka	Winter Garden	4 30 74	31				10,000	3	10A	3
GEORGIA										
Withlacoochee R.	Adel	7 20 74	26	54	46		263	3	2M	3
Davis Pond	Dearing	3 05 74	24	100			3,000	3	3A	3
Swift Cr.	Lyons	11 21 74	31	87	13		400		1M	3
Rottenwood Cr.	Marietta	9 29 74	50						17M	
Stone Mt Cr.	Stone Mountain	8 02 74	50				250	4	2M	
Withlacoochee R.	Valdosta	1 12 74	31	25	75		250		6M	1
HAWAII										
Kaalepulu Dr Ca	Kailua	11 04 74	50					2	1M	2
Drainage Canal	Kailua	2 28 74	31		100		100	3	1M	
IDAHO										
Boise R.	Boise	1 10 74	31	75	25		500	3	1M	
ILLINOIS										
Gallert Cr.	Avon	11 13 74	31	17	83	19	7,424	2	2M	2
N Fk Salt Cr.	Birkbeck	7 16 74	50	5	95	60	348	4	7M	
Lick Cr.	Danville	9 12 74	25	4	96		52,628	2	4M	1
S Br Kishwaukee	De Kalb	3 12 74	74		100	51	25,957	2	28M	24
Lake De Pue	De Pue	8 19 74	24	3	97	10	188,030	2	740A	30
Horse Cr-East Br.	Herscher	5 04 74	12	3	97	28	22,370	2	1M	20
Indian Cr.	Hopedale	7 15 74	50	4	96	1	1,216	2	5M	36
Illinois Canal	Joliet	6 14 74	31	1	99	99	57,489	1	2M	2
Little Indian Cr.	Leland	8 22 74	31	16	84	28	23,020	1	1M	
Turkey Cr.	Leland	9 26 74	31		100	1	31,848	1	1M	
Trib-Sangamon R.	Monticello	1 28 74	42	86	14	1	811	1	1M	1
Prince Run Cr.	Princetonville	8 26 74	22	1	99	1	67,287	1	4M	2
Crow Cr.	Toluca	9 04 74	44	4	96	19	23,418	1	1M	1
Big Sandy Cr.	Varna	8 11 74	13	15	85	12	25,002	3	3M	8
Mid Fk Big Muddy	W Frankfort	8 07 74	21	76	24	18	17,047		7M	
INDIANA										
Jackman Cr.	Bloomington	7 29 74	31				30,000	2	2M	1
Crava Cr.	Brazil	7 02 74	13		100		443		2M	
Lt Deer Cr.	Camden	8 14 74	13				1,000		1M	
N Hammond Pond	Concord	10 01 74	13	10	90		200		2A	
W Thompson Ditch	Fayette	8 09 74	13		100		100		3M	
Leatherwood Cr.	Greenwood	9 07 74	13		100		1,500		2M	
W Fork Rush Cr.	Kingman	7 12 74	13				70		1M	
S Reynolds Ditch	Lebanon	10 01 74	13	50	50		7,000	3	15M	12
Deer Cr.	Miami	9 17 74	13	10	90		1,834	2	1M	
Cicero Cr.	Tipton	9 20 74	31	99	1					
IOWA										
Coulee Cr.	Fayette	7 25 74	13		100		1,500	3		6
Coulee Cr.	Fayette	8 11 74	13		100					2
Mississippi R.	Kingston	8 24 74	28	40	60	87			1M	
Lake West	West Burlington	2 28 74	50	2	98		200	4	1A	
KANSAS										
Wolf Cr.	Basehor	6 30 74	22	20	80	20	6,500	1	3M	2
Muddy Cr.	Ogallah	1 20 74	25	20	80	60	500	4	1M	2
Marais Des Cygnes	Ottawa	7 21 74	35	25	74	70	266,899	1	13M	4
Gabbert Mine La	Pittsburg	3 27 74	21	20	10	60	100	1	1A	2
Webster Cr.	Sabetha	9 04 74	13	99	1	90	1,500	1	1M	24

Tr Thurman Cr.	Teterville	3 01 74	44	10	90	75	100	4	1M	1
Cow Cr.	Willowbrook	8 13 74	44	20	80	50	42,000	1	4M	16
KENTUCKY										
Banlick Cr.	Covington	7 08 74	28	10	90		8,437	1	2M	2
Floyds Fork	Fisherville	4 20 74	21	20	80		10,811	2	14M	3
Middle Fork	Inez	3 25 74	21	2	93		82,331	1	30M	7
Little Laurel R.	London	8 19 74	31				3,706		2M	
Sexton Cr.	Manchester	7 06 74	21	5	95		46,592	2	8M	2
LOUISIANA										
Bouef R & Big Cr.	Baskin	9 17 74	11	10	90		68,904	2	18M	7
Wards Cr.	Saton Rouge	5 08 74	31	25	92	9	2,573	4	4M	2
Bouef R.	Columbia	8 18 74	11	25	75		150,000	2	12M	7
Lafourche Ca.	Columbia	9 01 74	11	40	60		50,000	2	30M	3
Joes Bayou	Fort Necessity	12 -- 74	11	80	20		16,335		2M	4
Bayou Chauvin	Houma	8 14 74	11	20	80	15		3	6M	30
Bayou Lafourche	Larose	11 03 74	23						11M	4
Lt La Lafourche	Rayville	9 10 74	11	30	70		30,000	3	3M	14
Isle of Cuba Ca.	Schriever	8 06 74	11	35	65	10	11,000	2	3M	
Tensas R.	Tondal	9 21 74	11	10	90		8,562	3	7M	
Grand Bayou	White Castle	7 28 74	11	50	50	25		3	5M	18
White Castle	White Castle	8 04 74	11	50	50	5		2	5M	18
MAINE										
Scott Brook	Lambert Lake	8 27 74	41				12,000	1	5M	
MARYLAND										
Patapasco R.	Baltimore	8 20 74	31		100	100	77,425	2	11A	2
Chesapeake Bay	Dameron	6 04 74	50	95	5	95	1,500	4		
Back R.	Essex	8 03 74	31		100		10,733,000	2	350A	6
Back R.	Essex	8 27 74	31	1	99		31,900,000	2	350A	6
Back R.	Essex	8 15 74	31		100		47,712,000	2	350A	6
Back R.	Essex	8 17 74	31		100		11,016,000	2	350A	6
Flintstone Cr.	Flintstone	11 01 74	42		96	4	100	3	1M	1
Carroll Cr.	Frederick	6 04 74	24	50	50		150	3	1M	
Carroll Cr.	Frederick	6 14 74	24	50	50		70	3	1M	
Lt Catocin Cr.	Frederick	4 21 74	28		100		5,600	2	1M	12
Carroll Cr.	Frederick	6 13 74	22		100		500	2	2M	5
Chesapeake Bay	Sparrows Point	4 16 74	26	100		50	300	3	30A	2
Chesapeake Bay	Sparrows Point	6 30 74	26	1	99	99	500,000	2	100A	1
Jones Falls	Towson	3 14 74	28		100		1,073	2	2M	6
MASSACHUSETTS										
Chicopee Brook	Monson	7 17 74	24	50	50		200	4	2M	1
Hoosic R.	North Adams	8 14 74	24		100		7,000	1	1M	2
Ware R.	South Barre	4 20 74	24	10	90		700	2	1M	2
Chicopee R.	Springfield	6 04 74	24		100		1,000	3	1M	2
Manhan R.	West Hampton	7 19 74	34	100			700	1	1M	1
MICHIGAN										
Lake Cr.	Ionia Co.	7 19 74	13	80	20		300			
Marsac Cr.	New Baltimore	4 18 74	50	100			81			
Black R.	Zeeland	8 19 74	31	20	80		537	3		
MINNESOTA										
Cascade Cr.	Rochester	10 23 74	31		100		3,000		1M	12
MISSISSIPPI										
Lake Ferguson	Greenville	8 07 74	43	40	60		37,000	2	9 40A	2
Pearl R.	Jackson	6 05 74	31	30	70		2,000	3	20M	6
Gulf of Mexico	Ocean Springs	6 19 74	31		100		3,000	2	9A	
MISSOURI										
Blackberry Cr.	Asbury	4 25 74	21					3	6M	
Blackberry Cr.	Asbury	8 20 74	11					4	2M	
Lt R Drainage Dh.	Bell City	5 19 74	24	40	60		1,500	3	3M	3
Big Piney R.	Cabool	12 27 74	31	13	87		15,448	1	2M	2
N Fk of Moreau R.	California	7 25 74	11	20	80		260		1M	
Bixler Pond	Canslow	5 18 74	42	75	25		5,000	2	15A	4
Cline Pond	Carthage	5 16 74	31	35	65		1,500	2	2A	1
Dittmer Pond	Columbia	7 24 74	21	100			20,360	2	1A	
Hinkson Cr.	Columbia	8 23 74	21	25	75		21,220	2	4M	
Hinkson Cr.	Columbia	8 23 74	44	13	87		746	2	2M	
N Fk S Fabius R.	Edina	7 15 74	31	99	1		2,000	1	1M	2
E Fk Fishing R.	Excelsior Spgs.	8 12 74	31	20	80		5,900	2	2M	
Coldwater Cr.	Florissant	8 22 74	31	13	87		200	1	7M	
Sni-A-Bar Cr.	Grain Valley	7 25 74	42	50	50		50	4	1M	
Hanna Lake	Ironton	3 16 74	21	100				4	5A	1
Cedar Cr.	Jeherson City	8 23 74	23		100		25	4	44M	7
Turkey Cr.	Joplin	7 18 74	31		92		10,450	2	2M	
N Fk Salt R.	Kirksville	8 08 74	22	8	100		870	2	4M	
Nishabotna R.	Langdon	11 27 74	26		20		57,150	3	2M	1
Ditch-A	Malden	11 07 74	13	20	80		2,600	2	10M	
W Fk Finney Cr.	Marshall	8 14 74	44	18	82		2,963	1	1M	1
Turnbo Cr.	Marshallfield	9 18 74	28	2	98		1,430	3	1M	1
S Fk Salt R.	Mexico	7 17 74	13	42	58		300	2	2M	3
Leverette Pond	Middletown	9 07 74	35	100			220	3	2A	2
Montrose Lake	Montrose	5 09 74	21	97	3		6,240	4	1M	
Bear Cr.	Montrose	9 11 74	31	80	20		67	1	2M	
Lake Fondulas	Murphy	5 29 74	13		100		1,000	4	10A	
Indian Cr.	Neelys Landing	6 28 74	21	25	75			1	1M	1
Bass Cr.	Potosi	3 25 74	50	10	90			4	3M	
Piette R.	Ravenwood	9 01 74	31	20	80		1,200	1	2M	1
Burgher Br.	Rolla	9 09 74	31	15	85		1,000	4	1M	2
Love Cr.	Rolla	9 09 74	50				100	4	1M	
Camp Cr.	Rolla	6 30 74	24	50	50		209			
Industrial Pk Br.	Saint Joseph	8 09 74	42	5	95		713	3	1M	3
Spring Branch	Springfield	10 31 74	31	100			425	2	2M	
Grand Glaze Cr.	Valley Park	6 20 74	6		94		700	2	2M	
Hutter Pond	Wellsville	5 10 74		100					4A	

See footnotes at end of table.

TABLE 10—Report of Fish Kills, 1974—Cause Identified—Continued

Body of water	City or town	Date	Cause ¹ see code page	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity ² see code page 26	Estimated miles or acres affected ³ page 26	Duration Days Hrs.
				Percent game	Percent non game					
MONTANA										
Teton R.	Choteau	8 13 74	13	1	99	5	400,000	2	151M	6
Warm Springs Cr.	Clancy	7 31 74	34	100			50	2	1M	2
Prickly Pear Cr.	East Helena	1 15 74	21	60	40		3,500	1	5M	18
NEBRASKA										
Swoboda Pond	Battle Creek	3 11 74	13		100		350	2	1A	5
Papillion Cr.	Bennington	5 22 74	11		100		5,000	2	1M	1
Bell Cr.	Craig	5 16 74	50	10	90		14,735	1	8M	2
Wood R.	Grand Island	9 17 74	31	1	99		60,822	1	3M	1
Power Plant Pond	Hallam	5 13 74	35	100			204	4	1A	3
Salt Cr.	Lincoln	9 15 74	31	3	97		792,520	2	30M	3
Nine Mile Cr.	Mineral	1 16 74	13	5	95		2,823	3	1A	1
Buck Pond	Murdock	5 18 74	11	100			1,300	3	20A	3
Diehl Pond	Stratton	5 24 74	13	95			300	2	1M	2
Elkhorn R. Oxbow	West Point	5 19 74	13		100		10,000	3	1M	1
Cuming Cr.	West Point	8 11 74	13	1	99					
NEVADA										
Lower Humboldt R.	Lovelock	9 06 74	11	10	90		2,500	2	2M	1
NEW HAMPSHIRE										
Beaver Brook	Alton	5 15 74	50	2	98		100	4	1M	2
NEW JERSEY										
Third R.	Belleville	6 24 74	31		100		3,000	2	4M	2
Second R.	Belleville	3 05 74	25	5	95		500	2	1M	1
Hackensack R.	Bogata	12 31 74	33	45	55		2,000	3	5M	3
Roaring Rock Cr.	Brass Castle	5 22 74	31		100		900	2	3M	2
Kettle Cr.	Brick Twp.	8 05 74	31	10	90		672	3	1M	2
Timber Lake	Cecil	6 10 74	31	5	95		100	4	10A	2
Rowlands Pond	Clementon	4 25 74	31		100		500	2	5A	1
S Br Raritan R.	Clinton	1 30 74	42		100		400	2	2M	1
Newton Cr.	Collingswood	4 08 74	31	5	95		1,000	4	3M	2
Toms R.	Dover Twp.	5 20 74	24		100		500	3	1M	4
Cedar Cr.	East Rutherford	4 17 74	42		100		300	2	2M	1
Berrys Cr.	East Rutherford	8 09 74	25		100		500	3	2M	2
Millstone R.	East Windsor	6 07 74	31	15	85		500	2	1M	2
Bound Brook	Edison	4 25 74	24	50	50		250	2	1M	1
Raritan R.	Edison	5 20 74	24		100		50	4	5M	1
West Cr.	Erial	8 26 74	31		100		200,000	2	10A	3
Haines Pond	Fairton	6 14 74	21	10	90		500	1	2A	1
Clarks Pond	Franklin	5 22 74	24	20	80		200	3	1M	12
Walkill R.	Haddon Heights	5 23 74	24	10	90		4,000	2	4M	3
Newton Cr.	Haddon Heights	12 09 74	31	40	60		500	3	3M	2
Walkill R.	Hamburg	7 10 74	24	25	75		200	2	2A	1
Johnsons Farm P.	Hampton Twp.	7 22 74	34	25	75		100	3	3A	1
Bee Meadow Lake	Hanover Twp.	7 01 74	34	10	90		50	4	1M	30
Honey Run Cr.	Hopewell	7 15 74	31	10	90		150	4	2M	1
Hopewell Brook	Hopewell	8 28 74	31	10	90		450	2	1M	1
Long Brook	Howell	6 18 74	50	10	90		100	4	2M	12
Oyster Cr.	Lacey Twp.	10 09 74	35	10	90		20,000	2	3M	2
Oyster Cr.	Lacey Twp.	1 11 74	35		100		500	2	2M	1
Oyster Cr.	Lacey Twp.	1 07 74	35		100		50	3	2A	1
Prostak Pond	Lebanon	1 28 74	31	20	80		1,000	3	2M	12
Saddle R.	Lodi	9 16 74	33	10	90		50	4	5A	1
Duermal Lake	Madison Twp.	6 22 74	28		100		100	3	1M	1
Cheanut Branch	Manassas Twp.	6 19 74	28	25	75		500	2	5A	1
Fosters Lake	Marlton	6 24 74	11	10	90		150	2	1M	2
Ambrose Brook	Middlesex	10 01 74	24	10	90		500	3	3A	2
Raisingers Pond	Millstone	8 07 74	11	10	90		500	3	1M	2
Loosen Slout	Moonsachie	7 18 74	28		100		250	2	1M	2
Watnong Brook	Morris Plains	6 26 74	31	15	85		200	3	4A	1
Lake Hopatcong	Mt Arlington	5 30 74	50	5	95		2,000	3	5M	2
Salt Brook	New Providence	11 07 74	25		100		25	4	2A	1
Olecknas Pond	North Haledon	6 10 74	31	5	95		200	3	1M	12
Edwards Ditch	Perkippen	1 30 74	25	10	90		150	3	2A	2
Redmonds Pond	Pemberton	7 24 74	11		100		500	2	2M	1
Dotys Brook	Piscataway	4 17 74	35	5	95		400	2	2M	1
Dotys Brook	Piscataway	9 23 74	26		100		150	2	2M	1
Dotys Brook	Piscataway	8 05 74	26	80	20		300	3	3M	12
Chesnut Branch	Sewell	8 24 74	28	10	90		1,000	3	6M	3
Bryant Pond	Summit	1 28 74	25	30	70		100	2	3A	1
Gronkis Pond	Sussex	6 05 74	12		100		10,000	3	4M	1
Delaware Bay	Villas	4 19 74	31	25	75		100	3	5A	4
Eldredges Pond	Waterford Works	7 08 74	11		100		1,000	3	10A	8
Hidden Lake	Wayne	7 02 74	31	20	80		200	3	1M	2
Duck Pond Run	West Windsor	6 08 74	31	10	90		500	3	4M	2
Mill Cr.	Willingboro	1 15 74	42		100		1,000	3	10A	2
Woodbury Lake	Woodbury	3 24 74	50		100					
NEW YORK										
Marsh Ditch	Arkport	7 20 74	22	1	99		200	3	1M	1
Marsh Ditch	Arkport	8 15 74	22		100		10,000	2	2M	2
Canandaigua Outl.	Canandaigua	8 17 74	31		100		100	3	6M	3
Slate Bottom Cr.	Cheektowaga	5 22 74	31		100		200	3	1M	1
Got Cr.	Clarence Center	6 10 74	21	1	99		50	4	1M	1
Griffin Cr.	Cuba	4 29 74	22		100		1,000	1	3M	1
Dryden La Outlet	Dryden	12 23 74	50	10	90		100	1	1M	1
Plum Cr.	Ellicottville	7 25 74	26	2	98		2,500	2	8M	1
West Cr.	Hamlin	6 12 74	22		100		25	4	1M	2
Trib I-Ontario	Hamlin	6 13 74	50		100		400	3	4M	2
Ramapo R.	Harriman	4 29 74	24	100			50,000	1	2M	1
Cascadilla Cr.	Ithaca	7 18 74	50		100		100,000	1	2M	1
South Branch	Lackawanna	8 12 74	31	1	99					

Trib-La Ontario	Lyndonville	7 06 74	22	100	50	4	5M	2
Tr 88-Schenario	Middleburg	8 20 74	13	95	300	2	1M	2
Fourmile Cr & Tr	Model City	3 09 74	24	1	99	1	7M	3
Marbletown Cr	Newark	8 13 74	20	100	100,000	2	3M	1
Wood Cr	Rome	7 17 74	31	98	500	2	2M	1
Threemile Cr	Rushville	5 16 74	50	1	290	2	7M	1
West R	Union Springs	10 18 74	22	100	200	1	1M	7
Tr 5-Yawger Cr	Yates	10 01 74	13	100	100,000	1	25M	7
Johnson Cr		10 10 74	24	99				
NORTH CAROLINA								
Coles Br	Cary	7 22 74	50	99	1	288	1	
Catawba Cr	Gastonia	5 29 74	24	50	50	500	3	3M
NORTH DAKOTA								
Lake Metigoshe	Bottineau	3 15 74	31	100	75,000	2	1600A	85
Cherry Lake	Dawson	1 01 74	13	100	35,000	1	540A	69
Brewer Lake	Erie	6 26 74	13	100	35,000	2	160A	15
Armourdale Dam	Hansboro	2 74	13	95	16,000	1	85A	7
Harvey Reservoir	Harvey	12 74	31	90	22,500	1	282A	20
Larson Lake	Regent	2 74	13	100	12,000	1	180A	60
Goose R	Hillsboro	2 74	22	30	15,000	2	15M	10
MT Carmel Dam	Langdon	3 74	13	100	75,000	1	110A	7
McVillie Dam	McVillie	2 74	31	100	8,500	1	33A	20
Mouse R	Minot	6 74	31	90	45,000	2	160M	23
Northgate Dam	Northgate	12 74	31	100	12,000	2	150A	20
Warsing Dam	Shayenne	1 74	31	100	13,000	1	53A	45
Whitman Dam	Whitman	2 74	12	100	25,000	1	143A	20
OHIO								
Riley Cr	Allen Co.	7 18 74	31		334			
Four Mile Cr	Athens Co.	3 11 74	50		4,135			
Bend Fork Cr	Belmont Co.	7 09 74	31		18			
Bend Fk Cr	Belmont Co.	11 19 74	31		10			
Anderson Cr	Champaign Co.	7 17 74	13		280			
Treacle Cr	Champaign Co.	3 15 74	13		64,626			
Shayler Run	Clermont Co.	11 01 74	31		805			
W Br Bullskin Cr	Clermont Co.	5 24 74	50		544			
Trib Shayler Run	Clermont Co.	5 11 74	50		394			
Nine Mile Cr	Clermont Co.	1 19 74	42		103			
Sandusky R	Crawford Co.	7 05 74	31		47,144			
Trib Sandusky R	Crawford Co.	9 08 74	13		1,104			
Euclid Cr	Cuyahoga Co.	10 16 74	33		71			
Ontario R	Cuyahoga Co.	6 11 74	31		79,740			
Sugar Cr	Delaware Co.	6 20 74	22		50			
Sycamore Cr	Erie Co.	6 12 74	22		78			
Paint Cr	Fairfield Co.	6 11 74	31		33			
Rattlesnake Cr	Fayette Co.	10 11 74	31		270			
Sugar Cr	Fayette Co.	8 05 74	50		58			
Scioto R	Fayette Co.	8 30 74	31		29,397			
Ten Mile Cr	Franklin Co.	8 05 74	31		49			
Rocky Ford Cr	Fulton Co.	7 14 74	31		36			
E Br Portage R	Hancock Co.	10 16 74	28		2,469			
Rader Cr	Hancock Co.	8 28 74	50		2,540,394			
Oil Ditch	Hancock Co.	8 19 74	22		7			
Li Riley Cr	Hancock Co.	8 18 74	50		18			
Binkley Ditch	Hancock Co.	11 07 74	13		4,471			
Grass Run	Hardin Co.	11 19 74	50		450			
Taylor Cr	Hardin Co.	9 12 74	31		8,817			
Salt Cr	Hocking Co.	7 08 74	24		16,752			
Doughty Cr	Holmes Co.	7 26 74	50		110			
Mohican R	Holmes Co.	7 11 74	22		276			
Arcoia Cr	Lake Co.	10 14 74	13		238			
Flat Run	Logan Co.	10 06 74	50		1,064			
Salt Cr	Lorain Co.	4 28 74	22		25			
Ottawa R	Lucas Co.	7 16 74	31		1,000			
Swan Cr	Lucas Co.	8 16 74	31		13			
Petersons Ditch	Lucas Co.	8 14 74	50		167			
Thompson Fk	Madison Co.	2 11 74	31		637			
Spring Fork	Madison Co.	8 13 74	13		45			
Four Mile Cr	Madison Co.	7 19 74	50		110			
Uish Ditch	Waltoning Co.	6 14 74	31		135			
Rock Swale Ditch	Marion Co.	8 27 74	50		8,628			
Scioto R	Marion Co.	9 19 74	50		133,322			
Li Sandusky R	Marion Co.	6 08 74	31		290			
W Br Rocky R	Medina Co.	6 08 74	12		695			
Reeds Run	Medina Co.	10 01 74	31		145			
E Fk Rocky R	Medina Co.	10 01 74	13		11,356			
Bierdorfer Ditch	Mercer Co.	11 16 74	44		5,990			
Gr Miami R	Miami Co.	4 28 74	28		2,043			
Li Lost Cr	Miami Co.	11 18 74	24		591			
Gr Miami R	Miami Co.	9 17 74	13		9,278			
Gr Miami R	Miami Co.	6 15 74	31		26			
Bea Cr	Montgomery Co.	11 11 74	23		48			
Wakatomika Cr	Muskingum Co.	10 31 74	31		25			
Portage R	Ottawa Co.	8 04 74	31		125			
Flat Rock Cr	Paulding Co.	11 18 74	22		64			
Clarka Run	Pickaway Co.	9 21 74	31		660			
Bad Cr	Pike Co.	5 24 74	11		681			
Seven Mile Cr	Preble Co.	8 20 74	33		378			
Tr Periwinkle Rn	Preble Co.	8 25 74	31		75			
N Br Portage Run	Wood Co.	5 03 74	13		2,817			
Trib Blanchard R	Putnam Co.	5 10 74	12		5			
Trib Rocky Fork	Richland Co.	3 04 74	50		424			
Raccoon Cr	Richland Co.	7 09 74	31		658			
Sandusky R	Sandusky Co.	8 26 74	31		436,246			
W Br Wolf Cr	Sandusky Co.	11 09 74	31		45			
Tuscarawas R	Seneca Co.	10 16 74	26		29,200			
Mahoning R	Stark Co.	8 26 74	31		1,293			
Mill Cr	Union Co.	7 22 74	11		2			
Navin Ditch	Union Co.	7 04 74	22		2,692			
Jennings Cr	Van Wert Co.	5 18 74	11		98			
Jennings Cr	Van Wert Co.	8 13 74	31		48,557			
Jennings Cr	Van Wert Co.	9 10 74	31					

See footnotes at end of table.

TABLE 10—Report of Fish Kills, 1974—Cause Identified—Continued

Body of water	City or town	Date	Cause: see code page	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity: see code page 26	Estimated miles or acres affected: page 26	Duration Days Hrs.
				Percent game	Percent non- game					
OHIO—Continued										
Town Cr.	Van Wert Co.	9 02 74	31				10,066			
Duck Cr.	Washington Co.	7 23 74	21				13,580			
Lt Chippewa	Wayne Co.	8 15 74	50				414			
N Br Portage R.	Wood Co.	10 03 74	31				9			
Sister Cr.	Wood Co.	7 01 74	31				107			
Portage R.	Wood Co.	11 10 74	22				78			
Rocky Ford Cr.	Wood Co.	5 21 74	44				3,082			
Portage R.	Wood Co.	4 30 74	31							
OKLAHOMA										
Liza Cr.	Bartlesville	7 24 74	26		100		10	4	1M	
North Canadian R.	Calumet	7 03 74	11	10	90			2	5M	3 24
Grand Lake	Grove	9 23 74	31				200	4	1M	
Drain Ditch Ark R.	Jenks	8 02 74	50		100			3	20M	4
Little R.	Saskwa	7 04 74	44	20	80			2	3A	3
Farm Pond	Sterling	10 03 74	11	75	25		1,100	3	20A	6
Fill Pda-Ark R.	Webbers Falls	9 04 74	11	2	98	3	64,526	1		
OREGON										
Chicksee Cr.	Coos Bay	11 04 74	31	100			30	1	2M	2
A Baker Park Pd.	Eugene	6 17 74	50	14	86		35	3	2A	
Walla Walla R.	Millton-Freewatr	7 21 74	11				700			2
Palouse Cr.	North Bend	11 10 74	12		100		500	2	2M	2
Force Lake	Portland	3 19 74	25	25	75		400	2	8A	60
Mill Cr.	The Dalles	7 29 74	33	95	5		5,500	1	1M	1
PENNSYLVANIA										
Grout Cr.	Allentown	6 04 74	34	17	83		310	2	1M	2
Trib Opossum Cr.	Aspers	7 22 74	22		100		6,000	2	1M	4
Pike Run	Beallsville	8 23 74	27		93		2,500	2	1M	6
Dutch Run	Betsano	5 14 74	21	72	28		400	2	6M	
Tr-Darby Cr.	Berwyn	12 24 74	42	100			78	4	1M	2
Muddy Run	Blacklick	7 15 74	42	15	85		1,019	3	2M	2
Tr Slippery Rock	Boyers	7 20 74	27		100		439	1	1M	2
Ironstone Cr.	Boyetown	11 06 74	50	7	93		536	4	3M	
Peters Cr.	Clairton	9 01 74	24		100		500	4	1M	1
Allegheny R.	Coudersport	8 23 74	28	10	90		300	4	1M	2
Red Run	East Berlin	9 29 74	13	8	92		50	4	1M	12
E Br Red Clay Cr.	E Marlborough	10 08 74	11	100			48,000	2	2A	2
Presque Isle Bay	Fairview	5 19 74	31	15	85		37	4	1A	1
Trout Run	Fombell	5 18 74	11		100		1,000	1	1M	6
Trib & Wilson Pd.	Fontana	4 11 74	13	45	55		184	3	6M	1
Bachmans Run	Glen Campbell	4 19 74	25	30	70		100	3	3M	3
Straight Run	Hanover	7 19 74	31	100			300	2	6M	2
Oil Cr.	Hooker	2 27 74	10		90		100	3	3M	4
S Br Slip Rock Cr.	Idaville	5 14 74	22	100			500	4	1M	1
Bermudian Cr.	Lake City	7 15 74	11	100			214	2	2M	3
Godfrey Run	Lewisburg	11 02 74	25	7	93		188	3	1M	24
Drainage Ditch	Macungie	9 26 74	24	50	50		214	3	1M	
Swabe Cr.	Matamoras	1 04 74	42	96	4		31,500	2	12M	3
Trib-Delaware R.	Mercer	8 28 74	42	10	90		1,000	4	1M	1
E Lackawanna Cr.	Meyersdale	4 28 74	34	20	80		43	1	1M	2
Blue Lick Cr.	Mifflinburg	6 10 74	13	100			410	3	2M	1
Buffalo Cr.	Montgomeryville	8 01 74	26	100			120,000	1	6M	16
Trib-Park Cr.	Mt Joy	10 — 74	31	13	87		81	4	1M	
Lt Chickies Cr.	Mt Wolf	10 — 74	50	100			6,053	2	1M	
Susquehanna R.	Mt Wolf	10 18 74	50	66	34		410	3	1M	
Susquehanna R.	Mt Wolf	11 13 74	50	3	97		1,813	3	1M	2
Manhattan Run	Myerstown	9 10 74	24	100			5,000	1	4M	1
Tulpehocken Cr.	New Alexandria	9 — 74	25	100			397	2	1M	2
Tr-Loyalhanna C.	New Cumberland	1 18 74	42	1	99		3,988	1	1M	3
Unnamed Trib.	Palm	7 30 74	22	25	75		548	2	1M	2
Parkinson Cr.	Pine Grove Mill	10 08 74	33	9	91		300	4	1M	4
Slab Cabin Cr.	Pittsburgh	10 29 74	28	17	83		50	4	1M	1
Monongahela R.	Rockhill Furnace	7 15 74	25		100		5,545	2	3M	4
Jordan Run	Rote	10 25 74	50	10	90		1,180	3	1M	12
Long Run	St Michael	7 26 74	24	8	92		227	1	4M	3
Sandy Run	Shillington	7 19 74	33	10	90		514	3	1M	1
Wyomissing Cr.	Shirleysburg	3 23 74	44	3	97		891	1	2M	2
Fort Run	Shoemakersville	4 24 74	28	22	78		1,125	1	3M	12
Pigeon Cr.	Stillwater	9 26 74	11	11	89		1,080	2	4M	1
Davis Hollow Run	Tredyfrin	7 30 74	26	8	92		1,891	2	1M	2
Lt Valley Cr.	Valencia	6 13 74	26	40	60		80	2	1M	
Glade Run	Weimont	4 04 74	21	100			544	2	1M	
Gray Run	Wyomissing	5 29 74	31	26	74		200	4	1M	1
Wyomissing Cr.	Zion View	9 21 74	13	10	90					
Oak Cr.	Zion View	9 21 74	13							
RHODE ISLAND										
Fenner Pond	Cranston	2 05 74	28		100		200	4	1M	2
SOUTH CAROLINA										
Lake Hartwell	Anderson	8 10 74	11	19	81		1,500	4	5A	1
Huff Cr.	Greenville	6 07 74	26	50	50		2,000	2	1M	6
SOUTH DAKOTA										
James R.	Mitchell	1 01 74	31	5	95	80	400,000	1	100M	99
TENNESSEE										
Lt Chatata Cr.	Cleveland	8 16 74	31	19	81	7	33,818	2	13M	4
Duck R.	Columbia	7 21 74	24	13	87	87	18,924	2	6M	2
Conby Cr.	Cosby	7 08 74	11	2	98	8			1M	1
Spencer Cr.	Franklin	10 24 74	24		100	5			2M	1
Sinking Cr.	Johnson City	8 05 74	31		100	29	7,586		1M	1
Robertsons Fk Cr.	Lynnville	7 09 74	13	4	96	3	8,821	2		

Loosehatchie R.	Memphis	3 28 74	24	7	93	14	57,855	2	11M	6
Horn La Cut-off	Memphis	5 11 74	11	31	89	14	19,072	2	2M	2
Big Bigby Cr.	Mt Pleasant	3 11 74	24		100		680			24
Big Bigby Cr.	Mt Pleasant	7 09 74	24	1	99		67,373			
Mill Cr.	Nashville	7 02 74	31	3	97	88	306			
W Fk of Stones R.	Murfreesboro	8 03 74	31	22	88	78				
Mill Cr.	Nashville	7 16 74	31		100	100				
Ewing & Whites C.	Nashville	8 06 74	31	3	97	1	19,513			
Beans Cr.	Old Salem	8 08 74	31	3	97	8	54,233			
Middle Cr.	Pigeon Forge	3 14 74	50	7	93	12				
Pleasant Run Br.	Pulaski	3 30 74	22	11	89	1	1,766			
Flat Cr.	Washburn	10 26 74	11	8	92	8				
TEXAS										
Private Pond	Angleton	8-74	11				5,000	1		
Halls Bayou	Angleton	7-74	11				1,035	2		
Hickory Slough	Angleton	7-74	11				10,000	2		
Buffalo Bayou	Angleton	4-74	11				7,500	2		
Old Mustang Bayou	Angleton	9-74	25				100	4		
Clens Cr.	Bellville	2-74	31				200	3		
Dry Cr.	Bellville	10-74	25				6	4		
Brady Cr.	Brady	3-74	28				400	4		
Colorado R.	Colorado City	6-74	25				500	4		
San Jacinto R.	Conroe	7-74	31				100	4		
Conner Cr.	Crockett	9-74	25				1,000	2		
White Rock Cr.	Dallas	8-74	11					3		
Trinity Elm Fork	Dallas	6-74	33					3		
Bridgeport Lake	Decatur	5-74	25				1,000	4		
Trinity R.	Decatur	4-74	31				500	4		
Cooper Cr.	Denton	7-74	31				550	2		
Cooper Cr.	Denton	4-74	31				1,000	3		
Schroeder Lake	Dumas	5-74	11				1,000	3		
Dickinson Bayou	Galveston	4-74	25				7,500	2		
Highlands Bayou	Galveston	9-74	31				480,000	2		
Colorado R.	Goldthwaite	9-74	11				1,000	4		
Private Pond	Groesbeck	1-74	21				100	3		
Galveston Bay	Houston	7-74	31				10,000	3		
Greens Bayou	Houston	8-74	31				1,000	3		
Houston Ship Ch.	Houston	7-74	25				15,000	3		
Snake Cr.	Houston	7-74	28				50,000	2		
Unamed Cr.	Jacksboro	5-74	25				1,000	4		
Pine Cr Hollow	Kountze	6-74	25				100	3		
Lagg Cr.	Lavaca	2-74	25				1,000	2		
Lanana Cr.	Nacogdoches	7-74	25				1,000	3		
Boxes Cr.	Nacogdoches	9-74	24				100	4		
Caloma Cr.	Nacogdoches	4-74	12				100	3		
Oyster Cr.	Port Lavaca	3-74	11							
Calaveras Lake	San Antonio	10-74	24				20,000	1		
Lake McQuency	Seguin	5-74	28				1,600	4		
Sweetwater Cr.	Sweetwater	6-74	11				1,000			
Bypass-Brdwell L.	Waxahachie	5-74	11				100	4		
UTAH										
Logan R.	Logan	9 04 74	50	90	10		200	1	1M	1
VERMONT										
Sleepers R.	St Johnsbury	10 09 74	42		100		95	4	1M	
VIRGINIA										
Private Lake	Alexandria	3 08 74	50	1	99		337	4	1A	12
Calamo Branch	Alexandria	3 04 74	42	1	99		461	2	1M	
Private Pond	Cana	1 25 74	31	100				1	2A	14
Cooks Cr.	Dayton	7 11 74	31	1	99		2,762	3	2M	4
Accotink Cr.	Fairfax	7 18 74	50	80	90		392	3	2M	
Private Pond	Farmville	6 17 74	32	50	50		2,400	1	10A	7
Rock Cr.	Farmville	1 12 74	42	10	90		2,481	2	1M	1
Deep Run Cr.	Fredericksburg	8 19 74	24	100			1,500	3	1M	1
James R.	Hopewell	8 17 74	27	1	99		50,000	3	1A	1
Trout Hatchery	Marion	6 13 74	50	100			9,000	4	38400A	21
James R.	Menchville	5 05 74	31					4	1M	30
S Fk Rockfish R.	Nellysford	6 12 74	50	1	99		1,400	2	1M	
McHenry Cr.	Piasterco	7 10 74	24		100	50	200	3	1M	6
Kerns Cr.	Portsmouth	4 13 74	24		100		200	4	1M	
Elizabeth R.	Portsmouth	3 23 74	43		100		42	4	1M	1
Beaver Pond Cr.	Pulaski	2 09 74	42		100		70	4	1M	1
Blackwater R.	Waverly	11 14 74	31	75	25					
WASHINGTON										
Chehalis R.	Chehalis	8 29 74	31	100			50	3	2M	1
Cowiche Cr.	Cowiche	10 21 74	31	100			200	4	2M	
Patit R.	Dayton	7 21 74	22		99		10,050	4	1M	1
Currier Cr.	Ellensburg	7 10 74	11				96,000	2	2M	1
Issaquah Cr.	Issaquah	7 04 74	22	100						
Unamed Cr.	Kennel	5 08 74	50					4		
Unamed Pond	Kent	8 10 74	11					4		
Liberty Bay	Poulsbo	6 17 74	43			100		4		
Lake Union	Seattle	4 05 74	21					4		
Unamed Cr.	Snohomish	7 23 74	13					4		1
Burnt Bridge Cr.	Vancouver	8 21 74	33					2		1
Vancouver L.	Vancouver	7 09 74	50					4		
North Fork	Yakima	11 12 74	50	100			80	4	1M	1
WEST VIRGINIA										
Fuquay Cr.	Alum Cr.	3 27 74	25		100		3,650	2	2M	2
Rock Cr.	Beckley	5 01 74	21		100		10,000	3	2M	2
Mill Cr.	Berkeley Co.	8 28 74	22	1	99		250	3	1M	1
Friends Run	Franklin	7 09 74	25	5	95		575	4	1M	12
Four Pole Cr.	Huntington	6 26 74	42		88		3,200	2	2M	2
Otter Cr.	Ivydale	6 20 74	50	12	88		700	3	3M	1
Blacklick Cr.	Mercer Co.	3 27 74	42	10	90		16,950	2	3M	1
S Fk Potts Cr.	Monroe Co.	9 03 74	42	4	96		5,500	2	3M	1
Horn Camp Run	Romney	4 26 74	50		100		8,300	2	2M	1

See footnotes at end of table.

TABLE 10—Report of Fish Kills, 1974—Cause Identified—Continued

Body of water	City or town	Date	Cause ¹ see code page	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity ² see code page 26	Estimated miles or acres affected ³ page 26	Duration Days Hrs.
				Percent game	Percent non- game					
WISCONSIN										
Rock R.	Janesville	12 10 74	28	70	30	-----	200	2	1M	2
Luxemburg Cr.	Luxemburg	9 08 74	22	25	75	-----	17,000	2	2M	-----
Wisconsin R.	Rhineland	6 23 74	22	1	99	-----	5,000	2	3M	2
Six Mile Cr.	Waunakee	9 09 74	22	30	70	-----	1,000	2	4M	4
Wisconsin R.	Wisconsin Rapids	7 04 74	23	1	99	-----	7,500	2	10M	19
WYOMING										
La Prele Cr.	Glenrock	8 08 74	50	-----	-----	-----	5,000	1	2M	1

CODES

CAUSE:

10 Agricultural Operations

- 11 Pesticides (Herbicides, Insecticides, etc.)
- 12 Fertilizers
- 13 Manure, Silo, Feedlot Drainage, etc.

20 Industrial Operations

- 21 Mining
- 22 Food & Kindred Products
- 23 Paper & Allied Products
- 24 Chemicals
- 25 Petroleum
- 26 Metals
- 27 Combinations
- 28 Other

² SEVERITY:

- 1 Complete
- 2 Heavy
- 3 Moderate
- 4 Light

30 Municipal Operations

- 31 Sewerage System
- 32 Refuse Disposal
- 33 Water System
- 34 Swimming Pool
- 35 Power

40 Transportation Operations

- 41 Rail
- 42 Truck
- 43 Barge or Boat
- 44 Pipe Line

50 Other Operations

³ ESTIMATED MILES OR ACRES AFFECTED

A = Acres

M = Miles

Table 11 lists the 125 individual fish kills with pollution source not specified. Kills from natural causes are not included.

TABLE 11—Report of Fish Kills, 1974—Cause Not Specifically Identified

Body of water	City or town	Date	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity: see code page 28	Estimated miles or acres affected: page 28	Duration Days Hrs.
			Percent game	Percent non-game					
CALIFORNIA									
Auburn Ravine	Auburn	4 08 74	100			200	2	3M	24
Terbel Farms Pd	Colusa	4 25 74	25	75		100	1		
Ballona Cr.	Los Angeles	8 10 74		100		15,000	1	1M	2
Black Butte Res.	Orland	5 08 74	100			3,000	3	10000A	5
Rec Area Pond	Orland	12 -- 74	100			1,100	1	4A	5
S Luis Obispo Cr.	San Luis Obispo C.	8 07 74	30	70			1	1M	
Coyote Cr.	Santa Clara Co.	7 29 74		100		3,500		1M	
Trout Cr.	Truckee	9 12 74	100			250	1	1M	
CONNECTICUT									
Baumers Pond	Nagatuck	5 22 74	100				4		
Hardistys Pond	Southbury	5 18 74	100			55	4	2A	
FLORIDA									
Lake Evans	Deltona	6 17 74	100			260	4	3A	1
Trout Cr.	Duval Co.	4 29 74				200	4		4
St Johns R.	Geneva	6 02 74				200	4	1M	3
Spruce Cr.	New Smyrna Bch.	1 02 74				250	4		1
Lake Weir	Oklawaha	8 08 74							3
Lake Walden	Orlando	2 08 74					4	1A	1
Lt Ecnicktschee	Orlando	3 13 74		100			4		1
Lake Jessup	Oviado	5 12 74	20	80		8,000	3		3
St Johns R.	Palatka	5 23 74		100		150	4	5M	1
Lake George	Palm Beach	3 28 74	70	30		1,000	3	5A	2
Lake Panasoffkee	La Panasoffkee	7 19 74				500	4	4500A	4
Lake Pegram	Salt Springs	2 22 74		100		15	4		7
Spring Lake	Seminole Co.	4 05 74				20	4		4
W Ca. chman Canal	West Palm Beach	5 14 74	60	40		50		1M	2
GEORGIA									
Morning Cr.	Fayetteville	9 16 74	85	15		500	2	5M	1
South R.	Jackson	10 04 74	90	10		25,000	2	12M	5
Mud Cr.	Valdosta	6 26 74	60	40		200	2	1M	1
HAWAII									
Kumumau Ca.	Hickam AFB	11 21 74	1	99	1	1,100	2	2M	1
Wailepe Drain Ca.	Honolulu	10 03 74					2	1M	1
ILLINOIS									
Rock Cr.	Big Rock	8 23 74	26	74	50	9,305	1	2M	3
Clay Pool Drain	Carbon Hill	8 31 74	48	52	29	25,527	2	4M	36
Des Plaines R.	Des Plaines	7 18 74	6	94	96	4,755	3	3M	
North Shore Chnl.	Evanston	8 19 74		100	100	4,596	2	33M	
Kickapoo Cr.	Lincoln	9 09 74	9	91	9	2,330	3	2M	2
Big Cr.	Olney	8 12 74	48	52	32	1,821	3	3M	3
Coon Cr.	Riley	8 28 74	26	74	50	1,360	2	2M	15
North Fork	Springfield	9 14 74	24	76	42	2,768	2	6M	6
IOWA									
Mississippi R.	Ft Madison	8 25 74	20	80		100	4		
Iowa R.	Iowa Falls	8 06 74	2	98			4		1
KANSAS									
Claymore Cr.	Coffeyville	6 02 74	25	75	30	2,500	2	2M	24
Giblin Pond	Leawood	5 27 74	90	10	40	300	4	1A	12
KENTUCKY									
Old Field Branch	Bear Branch	3 01 74					2	2M	2
Ohio R.	Boone Co.	9 12 74		100					
Tennessee R.	Calvert City	5 20 74	40	60	2	5,000	2		3
North F Little R.	Hopkinsville	6 23 74	33	67	20	6,500	1	1M	1
Hurts Cr.	Hyden	5 07 74					1	2M	1
MARYLAND									
Carroll Cr.	Frederick	7 05 74	50	50	50	1,098	2	1M	1
MISSOURI									
Bear Cr.	Montross	8 24 74	57	43		1,424	3	1M	2
NEBRASKA									
West Blue R.	Dorchester	6 10 74		100		40	4	1M	
Lt Blue R.	Fairbury	6 28 74	15	85		900	2	2M	1
Sandpit-Scotts BF	Scottsbluff	2 06 74	10	90		1,100	1	1A	1
NEW HAMPSHIRE									
Shelkcamp Pond	Glimenton	6 12 74		100		1,500	4	138A	7
Crystal Lake	Manchester	5 27 74		100		1,000	3	15A	3
NEW JERSEY									
Poquannock R.	Butler	6 03 74	40	60		500	2	2M	1
Dennis Cr.	Dennisville	7 31 74		100		4,000	2	4M	3
Hudson R.	Edgewater	6 12 74	25	75		10,000	3	15M	4
Navesink R.	Highlands	6 10 74		100		4,000	3	2M	2
Lake Hopatcong	Hopatcong	6 10 74	20	80		100	4	10A	12
Furnace Brook	Oxford	2 -- 74	25	75		200	3	4M	2
Mirror Lake	Ramsey	6 12 74	5	95		100	4	5A	1
Smith Cr.	Sewaren	5 15 74		100		500	2		
Peters Brook	Somerville	6 11 74	5	95		200	4	2M	1

See footnotes at end of table.

TABLE 11—Report of Fish Kills, 1974—Cause Not Specifically Identified—Continued

Body of water	City or town	Date	Type of fish killed		Percent kill with commercial value	Estimated fish killed	Severity ¹ see code page 28	Estimated miles or acres affected ² page 28	Duration Days Hrs.
			Percent game	Percent non-game					
NEW YORK									
Chadokoin R.	Jamestown	6 25 74	1	99		4,500	2	2M	1
Cayuga Cr.	Niagara Falls	10 04 74		100		50	2	2M	1
NORTH CAROLINA									
Lake Wylie	Mt Holly	8 04 74	88	12		4,776	3	50A	
OHIO									
Six Mile Cr.	Allen Co.	7 12 74				745			
Black Cr.	Ashtabula Co.	6 09 74				381			
Buck Cr.	Clark Co.	6 20 74				150			
Buck Cr.	Clark Co.	6 12 74				200			
Lt Miami R.	Clark Co.	11 02 74				200			
Buck Cr.	Clark Co.	10 16 74				120			
Paint Cr.	Fayette Co.	8 30 74				87			
Scioto R.	Franklin Co.	7 25 74				30			
Tr Blacklick Cr.	Franklin Co.	10 08 74				58			
Halfway Cr.	Lucas Co.	8 14 74				283			
Brush Cr.	Miami Co.	8 13 74				1,307			
W Br Lost Cr.	Miami Co.	7 10 74				420			
Scioto R.	Pickaway Co.	8 18 74				25			
Swartz Ditch	Stark Co.	11 13 74				7			
Lt Hocking R.	Washington Co.	4 09 74				500			
OKLAHOMA									
Union Cr.	Nowata	8 29 74	10	90			4	1M	2
OREGON									
Long Tom R.	Monroe	6 18 74	6	94		424	2	4M	
Slough	Portland	10 05 74				300	2		6
PENNSYLVANIA									
Monongahela R.	Braddock	7 23 74	13	87		600	4	1M	
Tobys Cr.	Dallas	7 23 74	16	84		2,800	1		5
Buffalo Cr.	Lewisburg	11 — 74	14	86		350	4	1M	
Oil Cr-Tr W Br.	Menges Mills	6 12 74	63	37		335	2	3M	2
W Br Susquehanna	Milton	7 28 74	21	79		60,000	4	4M	
Sinking Cr.	Spring Mills	4 30 74	100			30	4		1
Conowingo Cr.	Wakefield	9 09 74	100			24	4	1M	1
TENNESSEE									
Miller Branch	Bell Buckle	6 30 74	20	80	2	578	3	1M	1
TEXAS									
E Union Bayou	Angleton	7 — 74				10,000	2		
Roadair Gully	Beaumont	7 — 74				400	2		
Belton Lake	Belton	9 — 74							
San Martin Lake	Brownsville	5 — 74							
Sour Br.	Centerville	8 — 74				100	4		
Cor Christi Bay	Corpus Christi	4 — 74							
Oyster Cr.	Angleton	1 — 74							
Big Brown Res.	Fairfield	8 — 74							
Sycamore Cr.	Fort Worth	4 — 74				4,000	2		
Galveston Bay	Galveston	5 — 74				900,000	4		
Galveston Bay	Galveston	4 — 74				710,000	4		
Clear Fx.	Graham	4 — 74				10,600	2		
Greens Bayou	Houston	2 — 74				50	4		
Baker Slough	Linden	4 — 74				1,000	2		
Angelina R.	Nacogdoches	7 — 74				1,000	3		
Angelina R.	Nacogdoches	7 — 74				10,000	2		
Kickapoo Cr.	Nacogdoches	7 03 74	15	85	80	10,000	4	3M	1
Red Arroyo Draw	Palestine	8 — 74							
Concho R.	San Angelo	4 — 74				1,200	2		
Eisenhauers Pond	San Angelo	5 — 74				45,000	1		
Leon Cr.	San Antonio	2 — 74				1,000	2		
	San Antonio	8 — 74				550	3		
WASHINGTON									
Kelsey Cr.	Bellevue	1 18 74	100			40	4	1M	3
Fish Hatchery	Naches	7 09 74	100			20,000	2		2
Rattlesnake Cr.	North Bend	9 21 74					4		
Wapato Cr.	Puyallup	5 09 74	100			3	4	1M	1
Coty Cove	Seattle	6 29 74				9	4		
Mill Cr.	Seattle	1 06 74					3	1M	1
Unnamed Cr.	Seattle	7 18 74					4		
Unnamed Pond	Seattle	8 02 74					4		
WEST VIRGINIA									
Whitestick Cr.	Mabscott	6 08 74	1	99		3,500	2	2M	1
Marsh Fork	Montcoal	9 28 74	5	95		19,000	2	2M	2
WISCONSIN									
Rock R.	Watertown	8 04 74	30	70		1,000	2	2M	
WYOMING									
Sweetwater R.	Casper	6 — 74	9				3		9

CODES

1 SEVERITY:
1 Complete
2 Heavy
3 Moderate
4 Light

2 ESTIMATED MILES OR ACRES AFFECTED

A=Acres
M=Miles